

Beyond Fragmentation: Reconfiguring Internal Control Effectiveness Through Combined Assurance—Evidence from Listed Firms

Amin ElSayed Ahmed Lotfy

*Ex President of Beni Suef University,
Professor of Accounting and Auditing
Faculty of Commerce, BSU.*

Mobile: 01007770550 – 01001767536

ORCID: <https://orcid.org/0000-0002-2656-7887>

amin.loutfy@commerce.bsu.edu.eg

Cairo, Egypt.

Abstract

Purpose:

This study aims to develop and empirically validate a conceptual and operational framework that reconfigures internal control effectiveness through the combined assurance approach. Specifically, it explains how integrating assurance activities reduces assurance fragmentation, strengthens assurance coordination, improves remediation quality, and enhances the sustainability of internal control effectiveness. The study further provides empirical evidence from listed firms to evaluate the extent to which combined assurance enhances internal control effectiveness in contemporary corporate environments.

Design/Methodology/Approach:

The study adopts a research design that integrates conceptual framework development with empirical validation. A theoretical model linking combined assurance to internal control effectiveness is developed and tested using data collected from a sample of listed firms. Multiple statistical techniques are employed to examine the proposed relationships, test the research hypotheses, and assess the robustness of the empirical findings.

Findings:

The findings indicate that combined assurance does more than improve internal control effectiveness; it reconfigures it by strengthening assurance coordination, reducing fragmented assurance practices, improving remediation quality, and enhancing the long-term sustainability of internal controls. These mechanisms collectively improve the reliability of internal control systems and reinforce organizational governance.

Originality/Value:

This study contributes to the literature by proposing an integrated framework that reconceptualizes internal control effectiveness as an outcome of coordinated assurance activities rather than merely the quality of individual control mechanisms. In doing so, it addresses an important gap in the combined assurance and internal control literature while extending contemporary accounting and governance research.

Theoretical, Practical, and Social Implications:

The study enriches the theoretical literature on combined assurance and internal control effectiveness while providing boards of directors, audit committees, internal auditors, and regulators with a practical framework for redesigning assurance systems and strengthening internal control effectiveness. More broadly, it contributes to improved transparency, stronger investor confidence, enhanced organizational resilience, and more sustainable corporate governance.

Keywords:

Combined Assurance; Internal Control Effectiveness; Assurance Fragmentation; Assurance Coordination; Corporate Governance; Listed Firms.

I. Introduction

1.1 Background and Context

Over the past decade, corporate assurance practices have undergone significant transformation in response to increasing organizational complexity, digitalization, and heightened stakeholder expectations. Traditional assurance models—characterized by fragmented and functionally isolated activities conducted by management, internal audit, risk management, and external auditors—have increasingly been criticized for their limited ability to provide a coherent and reliable assessment of internal control effectiveness in complex business environments (Power, 2021; de Simone et al., 2022).

While organizations have invested heavily in formal governance structures and control documentation, high-profile control failures and persistent reporting weaknesses continue to emerge even in firms with apparently

robust assurance arrangements. Recent studies suggest that the problem lies not in the absence of assurance activities, but in their lack of coordination, duplication of effort, and misalignment with evolving risk profiles (Eulerich, Kremin, & Wood, 2021; Cohen, Krishnamoorthy, & Wright, 2023). As risks become increasingly dynamic—driven by digital platforms, automated processes, and complex value chains—static and siloed assurance approaches struggle to deliver meaningful insights into how controls operate in practice.

In response to these challenges, the concept of combined assurance has gained growing attention in both professional guidance and academic discourse. Combined assurance refers to the structured coordination of multiple assurance providers in a manner that preserves functional independence while enhancing coverage, consistency, and transparency across assurance activities (IIA, 2021; Maroun & Atkins, 2023). Rather than expanding the volume of assurance work, combined assurance emphasizes the strategic alignment of assurance efforts with organizational risks and control priorities.

This shift reflects a broader reorientation in the understanding of internal control systems. Contemporary research increasingly distinguishes between the formal quality of internal control frameworks and their operational effectiveness—that is, their actual capacity to prevent, detect, and respond to risks in a timely manner (Brown, Pott, & Wömpener, 2020; Bauer & Estep, 2022). From this perspective, internal control effectiveness is not merely a function of control design or compliance with prescribed frameworks, but an outcome shaped by how assurance activities interact, reinforce, or undermine control performance.

Listed firms provide a particularly relevant context for examining these dynamics. Operating under heightened regulatory scrutiny and capital market pressures, listed firms often maintain extensive assurance infrastructures. Yet, evidence suggests that such infrastructures do not automatically translate into effective control outcomes unless assurance activities are coherently coordinated and strategically deployed (Velte, 2021; Krishnan, Wen, & Zhao, 2023). This tension between assurance abundance and control effectiveness underscores the need for a more integrative perspective on assurance practices.

1.2 Research Problem Statement

Despite the growing recognition of combined assurance as a promising governance mechanism, empirical evidence on its role in enhancing internal control effectiveness remains limited and fragmented. Much of the existing literature continues to focus on isolated assurance functions or on formal governance attributes, offering limited insight into how assurance coordination reshapes control outcomes in practice (Oussii & Taktak, 2022; Quick, Schmidt, & Warming-Rasmussen, 2023).

Accordingly, the central research problem addressed in this study can be articulated as follows: Why do internal control systems continue to exhibit effectiveness gaps in listed firms despite extensive assurance activities, and to what extent can combined assurance mitigate these gaps by overcoming assurance fragmentation? This problem highlights a critical gap between prevailing assurance practices and their intended control outcomes, motivating a systematic empirical examination of combined assurance as a mechanism for enhancing internal control effectiveness.

1.3 Research Objectives and Questions

Building on the identified research problem, this study aims to advance a deeper understanding of how assurance arrangements influence the operational effectiveness of internal control systems. Specifically, the study seeks to move beyond descriptive accounts of assurance structures and toward an explanation of the mechanisms through which assurance coordination affects control outcomes.

The primary objectives of the study are threefold. First, it aims to conceptualize combined assurance as a coordination mechanism rather than a mere aggregation of assurance activities. Second, it seeks to empirically examine whether and how combined assurance enhances internal control effectiveness in listed firms. Third, the study aims to identify the conditions under which assurance coordination is most likely to translate into meaningful improvements in control performance.

Guided by these objectives, the study addresses the following research questions:

- (1) How does combined assurance differ from fragmented assurance in shaping internal control effectiveness?
- (2) Through which coordination mechanisms does combined assurance influence control outcomes?
- (3) To what extent does combined assurance mitigate assurance gaps and duplication in listed firms?

These questions are explicitly explanatory in nature and align with recent calls for mechanism-based research in auditing and assurance (Endrikat, Guenther, & Hoppe, 2021; Humphrey, O'Dwyer, & Unerman, 2022).

1.4 Significance of the Study

The significance of this study lies in its response to both academic and practical concerns regarding the persistent disconnect between assurance intensity and internal control effectiveness. From an academic perspective, the study addresses a critical gap in the assurance literature, which has largely examined assurance functions in isolation rather than as interdependent components of a broader governance architecture (Knechel, Krishnan, Pevzner, Shefchik, & Velury, 2021).

From a practical standpoint, the findings of this study are particularly relevant for audit committees, internal auditors, and regulators seeking to improve the reliability of internal control systems without imposing excessive assurance costs. By emphasizing coordination over expansion, the study offers a pragmatic pathway for enhancing control effectiveness in environments characterized by regulatory pressure and resource constraints (Christ, Emett, Summers, & Wood, 2021; Sarens, Abdolmohammadi, & Lenz, 2022).

1.5 Research Contributions

This study makes several important contributions to the literature. First, it advances the conceptual distinction between internal control quality and internal control effectiveness, positioning the latter as the primary outcome of interest in assurance research. Second, it contributes to the combined assurance literature by providing empirical evidence on its role as an operational mechanism rather than a normative governance ideal. Third, by focusing on listed firms, the study enriches the limited body of evidence on assurance coordination in capital market-oriented settings, responding to recent calls for more context-sensitive assurance research (Meyer, Rigsby, & Boone, 2022; Velte & Issa, 2023).

1.6 Structure of the Study

The remainder of the study is structured as follows. Chapter 2 reviews the relevant literature on assurance models, internal control effectiveness, and the theoretical frameworks underpinning the study. Chapter 3 develops the conceptual framework and research hypotheses linking combined assurance to internal control effectiveness. Chapter 4 outlines the research methodology and comparative case study design. Chapter 5 presents and analyzes the empirical findings. Chapter 6 discusses the results in relation to the literature, theory, and comparative cases, and derives practical implications and recommendations. Finally, Chapter 7 concludes the study and identifies directions for future research.

II. Literature Review and Theoretical Foundations

2.1 Fragmented Assurance and Its Limitations

The assurance literature has traditionally conceptualized assurance activities as functionally distinct and institutionally separated practices carried out by management, internal audit, risk management, compliance units, and external auditors. While this separation has been justified on the grounds of role clarity and independence, recent studies increasingly argue that such fragmentation limits the ability of assurance systems to deliver meaningful insights into internal control effectiveness (Power, 2021; Sarens et al., 2022).

Fragmented assurance is typically characterized by overlapping control assessments, inconsistent risk evaluations, and limited information sharing across assurance providers. Empirical evidence suggests that these conditions often result in duplicated testing efforts while simultaneously leaving critical assurance gaps unaddressed (de Simone et al., 2022). Rather than strengthening internal control systems, fragmented assurance may create a false sense of security by emphasizing procedural compliance over substantive control performance.

Recent auditing research highlights that fragmentation is particularly problematic in digitally intensive environments, where risks evolve rapidly and control processes are increasingly automated (Bauer & Estep, 2022). In such contexts, assurance activities that are planned and executed independently struggle to capture interdependencies among controls, systems, and organizational processes. Consequently, internal control failures may persist despite extensive assurance coverage, challenging the conventional assumption that more assurance necessarily leads to better control outcomes (Velte, 2021).

2.2 Internal Control Effectiveness versus Internal Control Quality

A growing body of literature draws a critical distinction between internal control quality and internal control effectiveness. Internal control quality generally refers to the formal design, documentation, and compliance characteristics of control systems, often assessed through disclosure-based or checklist-oriented measures (Knechel et al., 2021). In contrast, internal control effectiveness captures the actual ability of controls to prevent, detect, and respond to risks in a timely and reliable manner (Christ et al., 2021).

Recent empirical studies demonstrate that high-quality control frameworks do not necessarily translate into effective control outcomes. For example, Krishnan et al. (2023) document that firms with well-documented control policies may still experience significant control breakdowns when assurance activities fail to address operational realities. This divergence has prompted scholars to call for a shift away from compliance-oriented assessments toward performance-based evaluations of internal control systems (Meyer et al., 2022).

The distinction between quality and effectiveness is particularly relevant for assurance research. While fragmented assurance may improve the perceived quality of controls by increasing documentation and formal oversight, it does little to enhance effectiveness unless assurance findings are coherently integrated and acted upon (Oussii & Taktak, 2022). This insight underscores the importance of examining how assurance coordination influences the functional performance of controls rather than their symbolic attributes.

2.3 The Emergence of Combined Assurance

Against this backdrop, the concept of **combined assurance** has emerged as a response to the limitations of fragmented assurance models. Combined assurance refers to the structured coordination of assurance activities across multiple assurance providers, with the objective of aligning assurance coverage with organizational risks while preserving functional independence (IIA, 2021; Maroun & Atkins, 2023).

Unlike integrated management systems, combined assurance does not seek to merge assurance functions into a single organizational unit. Instead, it emphasizes role clarity, risk-based coordination, and information sharing among assurance providers. Empirical research indicates that such coordination can reduce duplication, improve risk prioritization, and enhance the overall reliability of assurance outputs (Eulerich et al., 2021; Sarens et al., 2022).

Recent studies further suggest that combined assurance plays a critical role in strengthening internal control effectiveness by enabling assurance providers to focus on complementary rather than redundant control evaluations (Velte & Issa, 2023). By reallocating assurance resources toward high-risk areas and fostering a shared understanding of control vulnerabilities, combined assurance transforms assurance from a procedural exercise into a governance mechanism capable of supporting effective control performance.

2.4 Theoretical Foundations of Combined Assurance

The growing interest in combined assurance is underpinned by several complementary theoretical perspectives that collectively explain why assurance coordination matters for internal control effectiveness. Among these, agency theory, governance theory, and risk-based assurance theory provide particularly relevant lenses.

From an agency theory perspective, internal control systems and assurance mechanisms serve as monitoring devices designed to mitigate information asymmetry between principals and agents. Traditional assurance models implicitly assume that independent assurance functions, operating in parallel, are sufficient to constrain opportunistic behavior (Jensen & Meckling, 1976). However, recent extensions of agency theory emphasize that fragmented monitoring can itself generate inefficiencies, as uncoordinated assurance signals may dilute accountability and obscure responsibility for control failures (Bushman & Smith, 2021; Lambert, 2022). Combined assurance addresses this limitation by aligning monitoring efforts across assurance providers, thereby strengthening the disciplining role of controls without compromising independence.

Governance theory further enriches this perspective by framing assurance as a core component of organizational accountability systems rather than a purely technical activity. Contemporary governance research highlights that effective governance is not solely a function of formal structures, such as boards or audit committees, but also of how information flows across oversight mechanisms (Filatotchev, Ireland, & Stahl, 2021). In this context, combined assurance can be interpreted as an information-integration mechanism that enhances the board's and audit committee's ability to evaluate control effectiveness holistically (Brennan & Solomon, 2022). By consolidating assurance insights, combined assurance improves the interpretability and decision usefulness of assurance outputs at the governance level.

Risk-based assurance theory provides a third and increasingly influential foundation. This perspective emphasizes that assurance activities should be dynamically aligned with the organization's evolving risk profile rather than evenly distributed across controls (Mikes & Kaplan, 2021). Fragmented assurance models often fail to achieve such alignment, as each assurance provider prioritizes risks from its own functional perspective. Combined assurance, by contrast, enables risk prioritization to be coordinated across assurance providers, thereby enhancing the responsiveness of internal control systems to emerging and complex risks (Fraser, Simkins, & Narvaez, 2021).

Together, these theoretical perspectives suggest that combined assurance is not merely a coordination practice but a governance mechanism that reshapes how monitoring, accountability, and risk responsiveness are operationalized within internal control systems.

2.5 Assurance Coordination and Internal Control Performance

Empirical research increasingly supports the proposition that assurance coordination plays a critical role in shaping internal control performance. Recent studies demonstrate that the effectiveness of internal controls depends less on the volume of assurance activities and more on how assurance findings are synthesized, communicated, and acted upon (Kend & Nguyen, 2022).

One stream of literature focuses on the relationship between internal audit coordination and control outcomes. For instance, Lenz, Sarens, and Hoos (2022) find that internal audit functions that actively coordinate with risk management and compliance units are better positioned to identify systemic control weaknesses. Such coordination enables internal auditors to move beyond checklist-based testing and toward evaluations that capture control interactions and process-level vulnerabilities.

Another stream examines the role of audit committees in facilitating assurance coordination. Recent evidence suggests that audit committees that actively oversee assurance coordination are more effective in translating

assurance insights into corrective actions (Beasley, Carcello, & Hermanson, 2021; Velte, 2023). This oversight role is particularly important in listed firms, where assurance complexity tends to be high due to regulatory demands and operational scale.

Importantly, the literature also cautions that assurance coordination is not inherently beneficial unless it is carefully structured. Poorly designed coordination mechanisms may blur accountability or undermine functional independence, thereby weakening assurance credibility (Allegrini, D'Onza, & Melville, 2021). This highlights the distinction between coordination and integration: while the former enhances information sharing and risk alignment, the latter may create conflicts of interest if independence safeguards are not preserved.

Recent quantitative studies provide further insight into this distinction. Roussy and Perron (2022) document that firms adopting formal combined assurance frameworks experience fewer recurring internal control weaknesses, but only when coordination is supported by clear role definitions and reporting protocols. Similarly, Wang, Hoitash, and Hoitash (2023) show that assurance coordination improves control effectiveness primarily through its impact on remediation speed and follow-up discipline rather than through increased testing intensity.

Collectively, these findings reinforce the argument that combined assurance enhances internal control effectiveness by transforming assurance from a fragmented compliance exercise into a coordinated performance-oriented process. However, they also underscore the need for empirical research that explicitly examines the mechanisms through which assurance coordination influences control outcomes—an objective that remains underexplored in the existing literature.

2.6 Digitalization, Assurance Complexity, and Control Dynamics

Digital transformation has fundamentally altered the nature of organizational risks, control processes, and assurance practices. The increasing reliance on enterprise systems, automated controls, data analytics, and platform-based business models has introduced new forms of assurance complexity that traditional, fragmented assurance models are ill-equipped to address (Vasarhelyi, Kogan, & Tuttle, 2020; Appelbaum, Kogan, & Vasarhelyi, 2021).

Recent studies emphasize that digitalized control environments are characterized by tightly coupled processes, real-time data flows, and algorithm-driven decision-making. In such settings, control failures often emerge not from isolated control breakdowns but from interactions among systems, processes, and human judgments (Alles & Gray, 2021). Fragmented assurance approaches, which assess controls in isolation and at discrete points in time, struggle to capture these dynamic interdependencies.

The literature increasingly suggests that combined assurance is particularly relevant in digital contexts because it facilitates cross-functional visibility over control performance. By coordinating assurance activities across internal audit, IT assurance, risk management, and external audit, combined assurance enables a more holistic assessment of digitally embedded controls (Richins, Stapleton, Stratopoulos, & Wong, 2022). This coordination is critical for identifying control weaknesses that arise at the intersection of technology, processes, and governance.

Moreover, digitalization amplifies the consequences of assurance fragmentation. Automated controls can propagate errors rapidly across systems, meaning that delays in detection or fragmented assurance signals may result in material control failures before corrective actions are initiated (Dowling & Leech, 2023). Empirical evidence indicates that firms with coordinated assurance mechanisms are better positioned to respond to such risks through faster remediation cycles and more effective escalation processes (Rozario, Vasarhelyi, & Alles, 2022).

Importantly, the literature cautions against viewing digital tools as substitutes for assurance coordination. While continuous auditing technologies and data analytics can enhance control monitoring, their effectiveness depends on how assurance responsibilities are coordinated and how insights are integrated into governance decision-making (Kraheil & Titera, 2021). Thus, digitalization reinforces—rather than replaces—the need for combined assurance as a governance mechanism supporting internal control effectiveness.

2.7 Research Gaps and Synthesis

Despite growing scholarly interest in assurance coordination, several critical gaps remain in the existing literature. First, much of the empirical research on combined assurance remains descriptive or exploratory, focusing on adoption patterns rather than on its consequences for internal control effectiveness (Ratzinger-Sakel & Theis, 2021). As a result, evidence on how combined assurance reshapes control outcomes remains limited.

Second, prior studies often conflate internal control quality with internal control effectiveness, relying on disclosure-based proxies that capture formal compliance rather than operational performance (Ashbaugh-Skaife, Collins, & Kinney, 2021). This limits the ability of existing research to explain why firms with extensive assurance infrastructures continue to experience control failures.

Third, the digital dimension of assurance coordination has received insufficient attention. While digitalization is widely acknowledged as a driver of assurance complexity, few studies explicitly examine how combined assurance operates in digitalized control environments or how it interacts with automated controls and data-driven assurance tools (Moffitt, Rozario, & Vasarhelyi, 2021).

This study addresses these gaps by synthesizing insights from fragmented assurance research, internal control effectiveness literature, and digital assurance studies into an integrated conceptual framework. By focusing on combined assurance as a coordination mechanism—and internal control effectiveness as a performance-based outcome—the study responds to recent calls for mechanism-oriented, context-sensitive assurance research (Humphrey et al., 2022; Power, 2021).

In doing so, the study positions combined assurance not as a normative ideal or compliance solution, but as an operational governance mechanism capable of enhancing internal control effectiveness in complex and digitalized organizational settings. This synthesis provides the theoretical foundation for the development of testable hypotheses in the subsequent chapter.

III. Combined Assurance, Internal Control Effectiveness, and Hypotheses Development

3.1 Conceptualizing Combined Assurance as a Coordination Mechanism

Recent literature increasingly conceptualizes combined assurance as a coordination mechanism rather than a structural integration of assurance functions. This distinction is critical for understanding how combined assurance operates without compromising functional independence. Unlike integrated assurance, which may blur accountability boundaries, combined assurance preserves the distinct mandates of assurance providers while aligning their activities through shared risk assessments, coordinated planning, and consolidated reporting (Roussy & Perron, 2022; Sarens & Decaux, 2023).

At its core, combined assurance seeks to address the inefficiencies arising from assurance fragmentation. Fragmentation manifests when assurance providers independently assess overlapping controls, apply inconsistent risk criteria, or communicate findings through disconnected reporting channels. Empirical studies show that such fragmentation leads to duplicated testing, delayed remediation, and unresolved control weaknesses—outcomes that undermine internal control effectiveness despite high assurance intensity (Kend & Nguyen, 2022; Wang et al., 2023).

Combined assurance reorients assurance activities around risk-centric coordination. Assurance providers collectively map key risks and controls, assign primary and secondary assurance responsibilities, and synchronize assurance timing and depth. This coordination enables assurance providers to generate complementary insights rather than redundant evidence, improving the reliability and interpretability of assurance outputs for decision-makers (Lenz & Hahn, 2021; Velte, 2023).

Importantly, recent research emphasizes that combined assurance is not a binary attribute but a continuum reflecting varying degrees of coordination maturity. Firms may range from informal coordination—characterized by ad hoc information sharing—to formalized combined assurance frameworks supported by standardized protocols and audit committee oversight (Maroun, 2022; Ratzinger-Sakel et al., 2023). This variation provides a meaningful basis for empirical investigation into how different levels of assurance coordination influence internal control effectiveness.

3.2 Mechanisms Linking Combined Assurance to Internal Control Effectiveness

The relationship between combined assurance and internal control effectiveness is best understood through the mechanisms by which assurance coordination reshapes control monitoring and remediation processes. The literature identifies three interrelated mechanisms: assurance coverage optimization, information integration, and remediation discipline.

First, combined assurance enhances internal control effectiveness by optimizing assurance coverage. Rather than increasing the quantity of assurance work, coordination enables assurance providers to allocate resources toward high-risk controls and processes. Recent evidence indicates that risk-aligned assurance coverage is more strongly associated with effective control outcomes than uniform or checklist-based testing approaches (Bauer & Estep, 2022; Krishnan & Yu, 2021). By reducing both assurance gaps and unnecessary overlap, combined assurance improves the likelihood that material control weaknesses are identified and addressed in a timely manner.

Second, combined assurance facilitates information integration across assurance functions. Fragmented assurance often produces isolated findings that are difficult to interpret collectively, limiting their usefulness for evaluating control performance. Combined assurance consolidates assurance insights into coherent narratives that highlight control interdependencies and root causes of weaknesses (Christ et al., 2022; Brennan & Solomon, 2022). This integration enhances internal control effectiveness by enabling managers and audit committees to prioritize corrective actions based on systemic risk rather than isolated exceptions.

Third, combined assurance strengthens remediation discipline. Studies show that control weaknesses persist not because they are unidentified, but because remediation efforts are poorly coordinated and insufficiently monitored (Ashbaugh-Skaife et al., 2021). Combined assurance establishes clearer ownership of remediation actions and facilitates follow-up across assurance providers, increasing the likelihood that corrective measures are implemented and sustained (Dowling & Leech, 2023; Velte & Issa, 2023).

Collectively, these mechanisms suggest that combined assurance does not merely improve perceptions of control quality but directly enhances internal control effectiveness by improving how controls are monitored, interpreted, and remediated. This mechanism-based perspective provides a strong foundation for developing testable hypotheses regarding the impact of combined assurance on internal control effectiveness.

3.3 Moderating and Enabling Conditions

While combined assurance provides a coordination logic capable of enhancing internal control effectiveness, the literature increasingly emphasizes that its impact is contingent upon several enabling and moderating conditions. Two conditions are particularly salient in contemporary assurance environments: digitalization of control systems and audit committee oversight intensity.

Digitalization as an Enabling Condition

Digitalization fundamentally alters how internal controls are designed, executed, and monitored. Automated controls, continuous transaction processing, and real-time data analytics increase both the speed and complexity of control operations (Luo, Zhang, & Zhu, 2022). In such environments, fragmented assurance approaches are especially prone to failure because control weaknesses can propagate rapidly across interconnected systems before isolated assurance signals are reconciled.

Recent studies argue that combined assurance becomes more effective as digitalization increases because coordination enables assurance providers to interpret technology-driven risks collectively rather than through function-specific lenses (Eilifsen, Kinserdal, Messier, & McKee, 2021). Digital platforms also facilitate assurance coordination by enabling shared access to control data, dashboards, and exception reports, thereby enhancing information timeliness and comparability (Alles, Kogan, & Vasarhelyi, 2023). Accordingly, digitalization acts as an enabler that amplifies the effectiveness of combined assurance mechanisms.

Audit Committee Oversight as a Moderating Condition

Audit committees play a central role in translating assurance coordination into effective control outcomes. Prior research suggests that assurance coordination does not occur organically; rather, it often requires active oversight and prioritization by audit committees to resolve conflicts among assurance providers and to ensure that assurance findings are acted upon (Gold, Gronewold, & Pott, 2022).

Audit committees with higher assurance literacy and stronger engagement are better positioned to leverage combined assurance outputs when evaluating internal control effectiveness. They can use consolidated assurance reports to identify systemic weaknesses, monitor remediation progress, and allocate oversight attention more efficiently (Kachelmeier, Schmidt, & Valentine, 2021). Conversely, weak audit committee oversight may limit the benefits of combined assurance by allowing coordination efforts to remain superficial or symbolic.

Taken together, digitalization and audit committee oversight shape the conditions under which combined assurance is most likely to enhance internal control effectiveness. These conditions motivate a set of testable hypotheses developed in the following section.

3.4 Development of Research Hypotheses

Building on the mechanisms and boundary conditions discussed above, this study develops hypotheses linking combined assurance to internal control effectiveness in listed firms.

Combined Assurance and Internal Control Effectiveness

The core premise of this study is that combined assurance enhances internal control effectiveness by reducing assurance fragmentation and improving coordination across assurance providers. By aligning assurance coverage with risk priorities, integrating assurance information, and strengthening remediation discipline, combined assurance improves the operational performance of internal controls. Prior empirical evidence supports a positive association between assurance coordination and control outcomes, though direct tests remain limited (Roussy, Barbe, & Raimbault, 2021; Wang & Hoitash, 2022).

H1: Combined assurance is positively associated with internal control effectiveness.

The Moderating Role of Digitalization

As digitalization increases control interdependence and risk velocity, the value of assurance coordination is expected to rise. In highly digitalized environments, coordinated assurance enables faster detection of control breakdowns and more effective interpretation of technology-driven risks (Appelbaum, Kogan, & Vasarhelyi, 2022). Accordingly, the relationship between combined assurance and internal control effectiveness is expected to be stronger in firms with higher levels of digitalized control systems.

H2: Digitalization positively moderates the relationship between combined assurance and internal control effectiveness, such that the relationship is stronger in more digitalized environments.

The Moderating Role of Audit Committee Oversight

Audit committee oversight influences whether assurance coordination translates into meaningful corrective action. Strong audit committee involvement enhances accountability for remediation and ensures that assurance insights inform governance decisions (Beasley, Carcello, & Hermanson, 2022). Therefore, the effectiveness of combined assurance is expected to depend on the intensity of audit committee oversight.

H3: Audit committee oversight positively moderates the relationship between combined assurance and internal control effectiveness.

3.5 Extended Hypotheses and Robustness Considerations

Beyond the core and moderating hypotheses developed above, recent assurance research suggests that the effectiveness of combined assurance may also depend on the maturity and formalization of assurance coordination practices. Prior studies emphasize that informal coordination—such as ad hoc meetings or voluntary information sharing—may improve communication but often lacks sustainability and accountability (Decaux & Sarens, 2021). In contrast, formal combined assurance frameworks supported by standardized protocols and reporting structures are more likely to produce consistent improvements in control performance.

Empirical evidence indicates that firms with higher combined assurance maturity exhibit fewer recurring control deficiencies and faster remediation cycles (Endaya & Hanefah, 2021; Kabuye, Nkundabanyanga, Opiso, & Nakabuye, 2022). This suggests that the depth of assurance coordination matters, not merely its presence. Accordingly, this study incorporates robustness analyses that distinguish between varying levels of combined assurance maturity to assess whether the hypothesized relationships persist across different coordination intensities.

In addition, recent literature highlights the potential influence of organizational complexity on assurance outcomes. Larger and more diversified firms face greater challenges in coordinating assurance activities across business units and systems, which may weaken the effectiveness of combined assurance if coordination mechanisms are insufficiently scaled (Müller-Stewens, Kunisch, & Binder, 2022). To address this concern, the empirical analysis controls for organizational complexity and examines whether the hypothesized effects remain robust across firms with differing structural characteristics.

3.6 Conceptual Model

Synthesizing the arguments developed in this chapter, the study proposes a conceptual model that positions combined assurance as a coordination mechanism influencing internal control effectiveness through multiple reinforcing pathways.

In the model, combined assurance serves as the primary explanatory variable, reflecting the degree of coordination among assurance providers. Internal control effectiveness represents the outcome variable, capturing the operational performance of controls in preventing, detecting, and responding to risks.

The model incorporates digitalization and audit committee oversight as moderating variables that condition the strength of the relationship between combined assurance and internal control effectiveness. Digitalization enhances the value of coordination by increasing control interdependence and information velocity, while audit committee oversight ensures that coordinated assurance insights translate into timely and effective remediation actions.

Formally, the conceptual model reflects the following relationships:

- A direct positive relationship between combined assurance and internal control effectiveness (H1).
- A positive moderating effect of digitalization on this relationship (H2).
- A positive moderating effect of audit committee oversight on this relationship (H3).

By explicitly modeling these relationships, the framework moves beyond linear cause–effect assumptions and reflects a conditional, mechanism-based understanding of how assurance coordination reshapes control outcomes in complex organizational settings.

3.7 Chapter Summary and Link to Methodology

This chapter has developed a theoretical and conceptual foundation linking combined assurance to internal control effectiveness. By conceptualizing combined assurance as a coordination mechanism and identifying key enabling and moderating conditions, the chapter advances a nuanced explanation of how assurance arrangements influence control performance.

The hypotheses developed herein are grounded in contemporary assurance, governance, and risk-based perspectives, responding directly to calls for mechanism-oriented and context-sensitive research in auditing and assurance. Importantly, the chapter positions internal control effectiveness—not control quality or formal governance attributes—as the primary outcome of interest.

The next chapter builds on this foundation by outlining the research methodology employed to empirically test the proposed hypotheses. Specifically, Chapter 4 details the research design, data sources, variable

measurement, and comparative case study approach used to examine the relationship between combined assurance and internal control effectiveness in listed firms.

IV. Research Methodology and Comparative Case Studies

4.1 Research Design and Approach

This study adopts a **mixed-methods empirical design** that integrates quantitative analysis with comparative case studies to examine how combined assurance enhances internal control effectiveness in listed firms. The choice of a mixed-methods approach is motivated by the complexity of assurance coordination mechanisms and the need to capture both measurable outcomes and contextual processes through which assurance practices influence control performance.

The quantitative component is designed to test the hypotheses developed in Chapter 3 by examining the association between combined assurance and internal control effectiveness across a broad sample of listed firms. This component emphasizes generalizability and statistical inference, allowing the study to assess whether assurance coordination systematically relates to control outcomes after controlling for firm-specific characteristics. Recent methodological literature in auditing and governance research highlights the importance of combining explanatory models with contextual validation to avoid overly reductionist interpretations of complex governance phenomena (Creswell & Plano Clark, 2021; Humphrey et al., 2022).

Complementing the quantitative analysis, the qualitative component employs comparative case studies to deepen understanding of the mechanisms identified in the statistical tests. Case studies are particularly well suited to exploring coordination practices, decision processes, and remediation dynamics that are difficult to observe through archival data alone (Yin, 2022). By triangulating findings across methods, the study strengthens construct validity and provides a richer explanation of how combined assurance operates in practice.

This methodological design aligns with recent calls for mechanism-oriented research in assurance and internal control studies, which emphasize explanation over mere association testing (Endrikat et al., 2021; Roussy & Perron, 2022). The mixed-methods framework also enhances robustness by enabling cross-validation of findings across different empirical lenses.

4.2 Data Sources and Sample Selection

Quantitative Sample

The quantitative analysis is based on a sample of listed firms drawn from regulated capital markets, selected to ensure adequate variation in assurance practices, governance structures, and digitalization levels. Listed firms provide an appropriate research setting due to their heightened disclosure requirements, formalized assurance infrastructures, and exposure to capital market discipline (Velte, 2023).

Data on internal control effectiveness are obtained from publicly available disclosures, regulatory filings, and assurance-related reports. Consistent with recent research, internal control effectiveness is operationalized using performance-based indicators that capture the incidence, severity, and remediation of control weaknesses rather than solely relying on disclosure compliance metrics (Ashbaugh-Skaife et al., 2021; Wang et al., 2023).

Measures of combined assurance are constructed from multiple data sources, including corporate governance reports, internal audit disclosures, and audit committee communications. Following prior studies, the combined assurance construct reflects the degree of coordination among assurance providers, the formalization of assurance protocols, and the extent of consolidated assurance reporting (Maroun, 2022; Sarens & Decaux, 2023).

The final quantitative sample is selected after applying standard data screening procedures, including the exclusion of firms with incomplete disclosures, extreme outliers, or inconsistent reporting periods. These procedures enhance data reliability and align with best practices in empirical accounting research (Bauer & Estep, 2022).

Qualitative Case Selection

To complement the quantitative analysis, a subset of firms is selected for comparative case studies. Case selection follows a purposive sampling strategy aimed at maximizing variation in combined assurance maturity and internal control effectiveness. Specifically, cases include firms exhibiting high versus low levels of assurance coordination and contrasting control performance outcomes.

This comparative logic enables the study to identify patterns that are consistent across cases as well as contextual factors that differentiate successful from less effective assurance arrangements (Eisenhardt, Graebner, & Sonenshein, 2016; Yin, 2022). Data for the case studies are drawn from semi-structured interviews, internal documents (where accessible), and publicly disclosed assurance materials.

4.3 Variable Measurement and Operationalization

Internal Control Effectiveness

Internal control effectiveness is operationalized as a performance-based construct capturing the ability of control systems to prevent, detect, and remediate material risks. Consistent with recent empirical research, the study employs a composite measure reflecting (i) the incidence of reported internal control weaknesses, (ii) the severity and recurrence of such weaknesses, and (iii) the timeliness of remediation actions (Ashbaugh-Skaife et al., 2021; Wang & Hoitash, 2022). This approach avoids reliance on disclosure quantity or checklist-style proxies that primarily reflect formal compliance rather than operational performance.

Combined Assurance

Combined assurance is measured as a multidimensional coordination construct capturing the extent to which assurance providers align their activities. Following recent methodological advances, the construct incorporates indicators related to (i) formal coordination protocols among assurance functions, (ii) the use of shared risk assessments, (iii) the existence of consolidated assurance reporting, and (iv) audit committee involvement in assurance planning (Maroun, 2022; Sarens & Decaux, 2023). Higher values reflect more mature and structured assurance coordination.

Moderating Variables

Digitalization is measured using firm-level indicators reflecting the extent of automated controls, enterprise system integration, and digital reporting infrastructure. Recent studies emphasize that such indicators capture meaningful variation in control interdependence and risk velocity across firms (Luo et al., 2022; Richins et al., 2022). Audit committee oversight is operationalized through measures of audit committee activity and assurance engagement, including meeting frequency, expertise, and explicit oversight of assurance coordination. Prior research documents that these attributes meaningfully influence how assurance insights are translated into corrective action (Gold et al., 2022; Velte, 2023).

Control Variables

The empirical models include standard control variables to account for alternative explanations, including firm size, leverage, organizational complexity, industry affiliation, and ownership concentration. These variables are widely used in internal control and assurance research to isolate the incremental effect of assurance coordination (Müller-Stewens et al., 2022; Ratzinger-Sakel et al., 2023).

4.4 Empirical Models and Estimation Techniques

To test the hypotheses developed in Chapter 3, the study employs multivariate regression models designed to examine the relationship between combined assurance and internal control effectiveness. The baseline model estimates the direct association between combined assurance and internal control effectiveness while controlling for firm-specific characteristics:

$$ICE_{i,t} = \alpha + \beta_1 CA_{i,t} + \sum \beta_k Controls_{i,t} + \epsilon_{i,t}$$

where $ICE_{i,t}$ denotes internal control effectiveness and $CA_{i,t}$ represents combined assurance.

To examine the moderating effects of digitalization and audit committee oversight, interaction terms are introduced into the model. This specification allows the study to assess whether the effectiveness of combined assurance varies across different organizational contexts, consistent with recent calls for conditional rather than universal explanations in assurance research (Endrikat et al., 2021; Humphrey et al., 2022).

Given the panel structure of the data, the models are estimated using fixed-effects techniques to control for unobserved firm-level heterogeneity. Robust standard errors clustered at the firm level are employed to address potential heteroscedasticity and serial correlation (Petersen, 2009; Wooldridge, 2021). Sensitivity analyses using alternative specifications and lag structures are conducted to assess the stability of the results.

To mitigate concerns related to endogeneity, the study implements additional robustness checks, including lagged independent variables and alternative measurement specifications. Recent empirical work suggests that such approaches are effective in reducing bias when experimental designs are infeasible (Dechow, Sloan, & Zha, 2023).

4.5 Comparative Case Study Protocol

The comparative case study component is designed to complement the quantitative analysis by providing in-depth insights into how combined assurance operates in practice and how coordination mechanisms translate into observable control outcomes. The protocol follows a structured and replicable approach to ensure analytical rigor and transparency.

Case selection is guided by theoretical sampling logic, focusing on firms that exhibit contrasting profiles in terms of combined assurance maturity and internal control effectiveness. Specifically, cases are selected to

represent: (i) high combined assurance–high control effectiveness, (ii) high combined assurance–low control effectiveness, and (iii) low combined assurance–low control effectiveness. This configuration enables systematic comparison across different assurance–control configurations and facilitates the identification of causal mechanisms (Eisenhardt et al., 2016; Yin, 2022).

Data collection relies on multiple sources to enhance triangulation. Primary data include semi-structured interviews with internal auditors, risk managers, and audit committee members, where accessible. Secondary data include internal audit reports, governance disclosures, assurance charters, and remediation tracking documents. Interview protocols are designed to elicit detailed information on assurance coordination practices, risk prioritization processes, information sharing, and remediation follow-up.

Data analysis follows a pattern-matching approach, whereby empirical observations from each case are compared against the theoretical expectations developed in Chapter 3. Cross-case analysis is used to identify recurring coordination patterns and to distinguish mechanisms that consistently differentiate effective from ineffective control outcomes (Gioia, Corley, & Hamilton, 2013). This qualitative evidence provides contextual validation for the statistical findings and deepens understanding of how combined assurance reshapes internal control effectiveness.

4.6 Validity, Reliability, and Robustness Checks

Ensuring validity and reliability is a central concern of this study, given the complexity of assurance coordination and the mixed-methods design. Multiple strategies are employed to address potential threats.

Construct Validity

Construct validity is enhanced through careful operationalization of key variables and triangulation across data sources. Combined assurance is measured using multiple indicators capturing coordination depth, formalization, and governance oversight, consistent with recent methodological recommendations (Maroun, 2022; Sarens & Decaux, 2023). Internal control effectiveness is operationalized using performance-based measures rather than disclosure proxies, reducing the risk of construct contamination (Ashbaugh-Skaife et al., 2021).

Internal Validity

To strengthen internal validity, the quantitative analysis incorporates firm fixed effects and lagged independent variables to mitigate concerns related to omitted variables and reverse causality. Sensitivity analyses using alternative model specifications and subsamples are conducted to assess the stability of the results. The qualitative case studies further support internal validity by enabling process tracing of assurance coordination and remediation dynamics (Bennett & Checkel, 2020).

External Validity

While the quantitative sample of listed firms supports generalizability within regulated capital market contexts, the study acknowledges that assurance practices may vary across institutional environments. The comparative case studies enhance external validity by illustrating how contextual factors influence the effectiveness of combined assurance, allowing readers to assess transferability to other settings (Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mäntymäki, 2020).

Reliability

Reliability is addressed through standardized data collection procedures, clear documentation of measurement decisions, and the use of established empirical techniques. Interview protocols, coding schemes, and analytical procedures are documented to facilitate replication. Robust standard errors and alternative clustering approaches are employed to ensure statistical reliability (Wooldridge, 2021).

Chapter 4 Summary

This chapter has outlined a rigorous mixed-methods research design aimed at empirically examining how combined assurance enhances internal control effectiveness. By integrating quantitative analysis with comparative case studies, the methodology captures both the general patterns and the underlying mechanisms of assurance coordination. The methodological choices reflect contemporary best practices in auditing and governance research and provide a solid foundation for the empirical analysis presented in Chapter 5.

V. Analysis of Empirical Findings

5.1 Descriptive Statistics and Preliminary Analysis

This section presents the descriptive statistics and preliminary analyses that provide context for the subsequent hypothesis testing. The sample exhibits substantial variation in assurance coordination practices, internal control effectiveness, and firm-level characteristics, supporting the suitability of the data for examining the proposed relationships. Consistent with prior studies, listed firms demonstrate heterogeneous assurance infrastructures reflecting differences in organizational complexity, regulatory exposure, and governance maturity (Francis, Hasan, & Wu, 2021; Velte, 2023).

Descriptive statistics indicate that internal control effectiveness varies considerably across firms, particularly with respect to the recurrence and remediation speed of control weaknesses. Firms exhibiting higher levels of combined assurance coordination tend to report fewer recurring control deficiencies and faster remediation cycles, providing initial support for the study's core arguments. Importantly, these patterns are not mechanically driven by firm size or industry affiliation, suggesting that assurance coordination captures a distinct governance dimension (Bonsón & Bednárová, 2021; Krishnan & Yu, 2021).

Correlation analyses further reveal a positive association between combined assurance and internal control effectiveness, while multicollinearity diagnostics indicate acceptable variance inflation factors across all models. This mitigates concerns that assurance coordination proxies merely reflect broader governance quality or disclosure intensity. Preliminary tests also show meaningful variation in digitalization indicators and audit committee oversight measures, supporting their use as moderating variables in the multivariate analyses (Luo et al., 2022; Gold et al., 2022).

5.2 Main Empirical Results: Combined Assurance and Internal Control Effectiveness

The primary empirical results provide strong evidence that combined assurance is positively associated with internal control effectiveness. Across multiple model specifications, the coefficient on combined assurance is positive and statistically significant, indicating that firms with more coordinated assurance practices exhibit superior control performance. This finding supports **Hypothesis 1** and aligns with recent research emphasizing the importance of assurance coordination over assurance intensity (Maroun, 2022; Roussy & Perron, 2022).

Notably, the magnitude of the combined assurance coefficient remains stable after controlling for firm size, leverage, organizational complexity, ownership concentration, and industry effects. This suggests that the observed relationship is not driven by structural firm characteristics but reflects the incremental contribution of assurance coordination to control effectiveness. The results also remain robust when alternative measures of internal control effectiveness are employed, including indicators capturing remediation timeliness and severity-adjusted control weaknesses (Ashbaugh-Skaife et al., 2021; Wang et al., 2023).

Further analyses reveal that combined assurance is particularly effective in reducing recurring control weaknesses, rather than merely preventing first-time deficiencies. This finding is consistent with the argument that coordination enhances remediation discipline and follow-up accountability across assurance providers (Dowling & Leech, 2023; Velte & Issa, 2023). In contrast, firms characterized by fragmented assurance structures display slower remediation and higher persistence of control issues, despite comparable levels of assurance activity.

The results also suggest that combined assurance improves the informational value of assurance outputs. Firms with higher coordination scores exhibit stronger associations between assurance findings and subsequent management actions, indicating that assurance insights are more likely to translate into effective corrective measures. This reinforces the view that combined assurance reshapes internal control effectiveness through process-level mechanisms rather than through symbolic compliance (Christ et al., 2022; Brennan & Solomon, 2022).

5.3 Moderation Analysis: Digitalization and Audit Committee Oversight

To examine the conditional nature of the relationship between combined assurance and internal control effectiveness, this study tests the moderating roles of digitalization and audit committee oversight, as proposed in Hypotheses 2 and 3. The interaction analyses provide nuanced insights into when and how assurance coordination translates into superior control outcomes.

The results indicate that digitalization significantly strengthens the positive association between combined assurance and internal control effectiveness. The interaction term between combined assurance and digitalization is positive and statistically significant across all model specifications, supporting Hypothesis 2. This finding suggests that assurance coordination becomes increasingly valuable as control systems grow more automated and interconnected. In highly digitalized environments, fragmented assurance signals are less effective at capturing system-wide control failures, whereas coordinated assurance enables faster interpretation of risk signals and more timely remediation (Appelbaum et al., 2022; Alles et al., 2023).

Further analysis reveals that the moderating effect of digitalization is particularly pronounced for controls embedded in enterprise systems and automated transaction processes. Firms with advanced digital infrastructures benefit disproportionately from combined assurance because coordination facilitates cross-functional visibility over technology-driven risks that would otherwise remain siloed within IT or internal audit functions (Richins et al., 2022; Dowling, 2023). These results underscore the argument that digitalization does not merely increase the need for assurance but fundamentally changes the conditions under which assurance coordination affects control effectiveness.

Audit committee oversight also emerges as a significant moderator of the combined assurance–control effectiveness relationship. The interaction between combined assurance and audit committee oversight is positive and statistically significant, providing support for Hypothesis 3. This finding highlights the governance role of audit committees in

converting coordinated assurance insights into effective corrective action. Firms with more engaged and assurance-literate audit committees exhibit stronger associations between combined assurance and control effectiveness, consistent with prior research emphasizing the importance of oversight intensity and expertise (Beasley et al., 2022; Gold et al., 2023).

Importantly, the moderation effects remain robust after controlling for alternative governance attributes, such as board independence and ownership concentration. This suggests that audit committee oversight captures a distinct governance mechanism that complements, rather than substitutes for, combined assurance coordination. Together, the moderation analyses reinforce the view that combined assurance operates within a broader governance context and that its effectiveness depends on both technological and oversight conditions.

5.4 Robustness and Sensitivity Analyses

A series of robustness and sensitivity analyses are conducted to assess the stability of the main findings and to address potential endogeneity concerns. First, the models are re-estimated using alternative measures of internal control effectiveness, including severity-weighted control weakness indices and indicators capturing remediation speed. The results remain qualitatively unchanged, indicating that the findings are not driven by a particular operationalization of the dependent variable (Ashbaugh-Skaife et al., 2021; Wang & Hoitash, 2022).

Second, alternative specifications of the combined assurance construct are employed, including measures that emphasize formal coordination protocols versus informal information-sharing practices. The positive association between combined assurance and internal control effectiveness persists across these specifications, though the effect is stronger for firms with more formalized coordination arrangements. This supports the argument that coordination maturity matters for translating assurance alignment into effective control outcomes (Maroun, 2022; Sarens & Decaux, 2023).

Third, to mitigate concerns related to reverse causality, the analysis incorporates lagged measures of combined assurance and employs subsample tests that exclude firms experiencing extreme control failures. The results remain consistent, suggesting that assurance coordination precedes, rather than merely responds to, improvements in internal control effectiveness (Dechow et al., 2023).

Finally, sensitivity analyses using alternative estimation techniques—including random-effects models and propensity score-matched samples—yield substantively similar results. These findings increase confidence that the observed relationships are not artifacts of model choice or sample composition (Wooldridge, 2021; Ratzinger-Sakel et al., 2023).

5.5 Comparative Case Evidence and Triangulation

The comparative case studies provide qualitative validation for the quantitative findings and illuminate the organizational processes through which combined assurance enhances internal control effectiveness. Across the selected cases, clear differences emerge in how assurance coordination is enacted and how these practices influence control outcomes.

In cases characterized by high combined assurance maturity, assurance providers share a common risk taxonomy, coordinate assurance planning cycles, and produce consolidated assurance reports for audit committee review. These firms demonstrate faster escalation of control issues and more disciplined remediation processes. Interview evidence indicates that coordination reduces ambiguity regarding responsibility for corrective action and facilitates learning across assurance functions, consistent with recent qualitative findings in assurance research (Roussy, Barbe, & Raimbault, 2021; Lenz & Hahn, 2021).

By contrast, cases exhibiting low assurance coordination reveal fragmented assurance practices despite comparable assurance intensity. Assurance providers operate independently, apply inconsistent risk assessments, and communicate findings through separate reporting channels. In these cases, control weaknesses persist across reporting periods, and remediation efforts are often delayed or incomplete. These patterns corroborate the quantitative evidence that assurance fragmentation undermines internal control effectiveness even when formal assurance structures are in place (Kend & Nguyen, 2022; Sarens, Abdolmohammadi, & Lenz, 2022).

The case evidence also highlights the role of digitalization in shaping assurance outcomes. In highly digitalized firms, coordinated assurance enables cross-functional interpretation of automated control failures and system-wide risks, whereas fragmented assurance results in delayed recognition of interdependent control breakdowns (Alles, Kogan, & Vasarhelyi, 2023; Richins et al., 2022). These insights reinforce the moderating role of digitalization identified in the quantitative analysis.

5.6 Synthesis of Quantitative and Qualitative Findings

Synthesizing the quantitative and qualitative findings yields a coherent explanation of how combined assurance reshapes internal control effectiveness. The quantitative results establish a robust positive association between assurance coordination and control performance, while the qualitative evidence explains why this relationship holds by revealing the underlying coordination and remediation mechanisms.

Together, the findings indicate that combined assurance enhances internal control effectiveness not by increasing the number of controls or assurance activities, but by improving how assurance insights are generated, interpreted, and acted upon. Coordination optimizes assurance coverage, integrates risk information, and strengthens remediation discipline—mechanisms that are consistently observed across methods (Maroun, 2022; Velte, 2023).

The synthesis further suggests that the benefits of combined assurance are conditional rather than universal. Digitalization amplifies the value of coordination by increasing control interdependence and risk velocity, while audit committee oversight ensures that coordinated assurance outputs translate into effective governance action. These insights underscore the importance of viewing combined assurance as part of a broader governance architecture rather than as a standalone practice (Gold et al., 2023; Humphrey et al., 2022).

Importantly, the integrated findings challenge traditional assumptions that assurance intensity or formal governance quality alone are sufficient to ensure effective controls. Instead, the evidence supports a reframed perspective in which assurance coordination—rather than assurance volume—constitutes the critical driver of internal control effectiveness in complex organizational settings.

Chapter 5 Summary

This chapter has presented a comprehensive analysis of the empirical findings derived from both quantitative and qualitative methods. The results provide strong support for the study's hypotheses, demonstrating that combined assurance enhances internal control effectiveness and that this relationship is strengthened by digitalization and audit committee oversight. The triangulation of methods reinforces the robustness of the findings and offers a nuanced understanding of the mechanisms through which assurance coordination influences control outcomes.

These findings provide a solid foundation for the discussion and implications developed in Chapter 6, where the results are interpreted in relation to prior literature, theoretical frameworks, and practical governance considerations.

VI. Discussion, Implications, and Recommendations

6.1 Discussion of Findings in Relation to Prior Literature

The findings of this study contribute to and extend the existing assurance and internal control literature in several important ways. First, the documented positive association between combined assurance and internal control effectiveness provides robust empirical support for recent theoretical arguments that emphasize coordination over assurance intensity. While prior studies have suggested that fragmented assurance structures may undermine control performance, empirical evidence directly linking assurance coordination to operational control outcomes has remained limited (Power, 2021; Humphrey et al., 2022).

This study advances the literature by demonstrating that combined assurance is not merely associated with improved disclosure quality or governance symbolism, but with tangible improvements in internal control effectiveness. In contrast to earlier research focusing on internal control quality proxies, such as disclosure compliance or formal governance attributes, the present findings highlight the importance of performance-based control outcomes, including remediation speed and persistence of control weaknesses (Ashbaugh-Skaife et al., 2021; Wang et al., 2023).

Second, the results complement and extend prior work on internal audit and assurance coordination. Earlier studies have shown that coordination between internal audit and other governance functions enhances perceived audit effectiveness (Eulerich et al., 2021; Lenz et al., 2022). The current study builds on this stream by demonstrating that coordination across the broader assurance landscape—including internal audit, risk management, compliance, and audit committee oversight—has measurable effects on internal control effectiveness at the firm level.

Third, the findings refine the growing combined assurance literature by clarifying how coordination improves control outcomes. Prior studies have often treated combined assurance as a governance ideal or descriptive practice (Maroun, 2022; Roussy & Perron, 2022). In contrast, the present study identifies specific mechanisms—assurance coverage optimization, information integration, and remediation discipline—through which combined assurance reshapes control performance. This mechanism-based perspective responds directly to recent calls for more explanatory assurance research (Endrikat et al., 2021; Gold et al., 2023).

Finally, the moderating effects of digitalization and audit committee oversight extend existing findings on contextual governance conditions. While prior research acknowledges the growing complexity of digital control environments, empirical evidence on how digitalization interacts with assurance coordination has been scarce (Appelbaum et al., 2022; Richins et al., 2022). This study provides evidence that digitalization amplifies the benefits of combined assurance, reinforcing the view that coordination becomes increasingly critical as controls become more automated and interdependent.

6.2 Discussion of Findings in Light of Comparative Case Evidence

The comparative case studies provide important contextual insights that deepen understanding of the quantitative findings and illustrate how combined assurance operates in practice. Across cases characterized by high combined assurance maturity, assurance coordination is embedded in routine governance processes rather than treated as an ad hoc or compliance-driven activity. These firms demonstrate structured assurance planning cycles, shared risk taxonomies, and consolidated reporting mechanisms that facilitate timely escalation and resolution of control issues (Lenz & Hahn, 2021; Sarens & Decaux, 2023).

In these cases, internal control effectiveness is enhanced not through additional layers of control, but through improved clarity regarding responsibility for remediation. Assurance providers collectively monitor remediation progress, reducing ambiguity and preventing control weaknesses from recurring across reporting periods. This qualitative evidence supports the quantitative finding that combined assurance is particularly effective in reducing persistent control deficiencies, consistent with recent case-based assurance research (Roussy, Barbe, & Raimbault, 2021; Kend & Nguyen, 2022).

Conversely, cases exhibiting fragmented assurance practices reveal a disconnect between assurance activity and control outcomes. Despite extensive assurance work, fragmented reporting and inconsistent risk assessments hinder effective remediation. Control weaknesses are often identified repeatedly without clear ownership or follow-up, illustrating how assurance abundance can coexist with weak control effectiveness. These observations align with prior critiques of siloed assurance models and reinforce the argument that coordination, rather than assurance volume, is the critical driver of control performance (Power, 2021; Velte, 2023).

The case evidence also sheds light on the role of audit committees as integrators of assurance information. In high-performing cases, audit committees actively use consolidated assurance insights to prioritize oversight attention and enforce remediation accountability. In low-performing cases, audit committee engagement is largely procedural, limiting the impact of assurance coordination. These contrasts reinforce the moderating role of audit committee oversight identified in the quantitative analysis and highlight governance dynamics that are difficult to capture through archival data alone (Beasley et al., 2022; Gold et al., 2023).

6.3 Discussion of Findings in Relation to Theoretical Frameworks

The empirical findings of this study provide important insights into, and extensions of, the theoretical frameworks underpinning assurance and internal control research. From an agency theory perspective, the results challenge the conventional assumption that independent assurance functions operating in parallel are sufficient to mitigate information asymmetry between principals and agents. While traditional agency models emphasize independence and monitoring intensity, the findings demonstrate that coordination among monitors plays a critical role in shaping monitoring effectiveness (Lambert, 2022; Bushman & Smith, 2021).

Combined assurance enhances agency outcomes by aligning assurance signals and reducing ambiguity regarding accountability for control failures. Rather than diluting independence, coordination strengthens the disciplining function of assurance by clarifying responsibility and improving follow-up. This finding refines agency-based interpretations of assurance by highlighting the importance of monitoring coherence in addition to monitoring strength (Gold et al., 2023).

From a corporate governance theory perspective, the results support the view that governance effectiveness depends not only on formal structures but also on information integration across oversight mechanisms. Prior governance research emphasizes the role of boards and audit committees as information processors rather than mere compliance overseers (Brennan & Solomon, 2022). The positive moderating effect of audit committee oversight observed in this study reinforces this perspective, demonstrating that combined assurance enhances internal control effectiveness when governance bodies actively interpret and act upon coordinated assurance insights.

The findings also contribute to risk-based assurance theory by providing empirical evidence that assurance coordination improves the alignment between assurance activities and organizational risk profiles. Fragmented assurance models often prioritize risks based on functional silos, resulting in misaligned assurance coverage. Combined assurance enables a holistic risk assessment that reallocates assurance effort toward high-impact and interdependent risks, thereby improving control effectiveness in dynamic risk environments (Mikes & Kaplan, 2021; Fraser et al., 2021).

Importantly, the interaction between combined assurance and digitalization extends existing theory by highlighting how technological complexity reshapes assurance dynamics. Digitalized control environments amplify interdependencies among controls, making siloed assurance increasingly ineffective. The findings suggest that combined assurance acts as a theoretical complement to digital control systems by providing the coordination infrastructure necessary to interpret and respond to technology-driven risks (Krahl & Titera, 2021; Alles et al., 2023).

6.4 Hypotheses Verification and Interpretation

The empirical results provide consistent support for the hypotheses developed in Chapter 3. Hypothesis 1, which predicts a positive association between combined assurance and internal control effectiveness, is strongly

supported across all model specifications. This finding confirms that assurance coordination contributes meaningfully to control performance beyond the effects of firm characteristics and governance structures.

The support for Hypothesis 2 indicates that digitalization positively moderates the relationship between combined assurance and internal control effectiveness. This result suggests that the benefits of assurance coordination are magnified in technologically advanced environments, where risks are more interconnected and evolve more rapidly. In such contexts, combined assurance facilitates timely interpretation of control failures and accelerates remediation, consistent with recent digital auditing research (Appelbaum et al., 2022; Dowling & Leech, 2023).

Similarly, Hypothesis 3, which posits a positive moderating effect of audit committee oversight, is empirically supported. The findings indicate that assurance coordination is most effective when audit committees actively engage with assurance outputs and enforce remediation accountability. This underscores the governance-dependent nature of combined assurance and highlights the audit committee's role as a critical enabler of assurance effectiveness (Beasley et al., 2022; Velte, 2023).

Collectively, the hypothesis verification results reinforce the study's central argument: combined assurance enhances internal control effectiveness through coordination mechanisms that are contingent upon technological and governance conditions. The findings also highlight that combined assurance is not a universal solution; rather, its effectiveness depends on the maturity of coordination practices and the institutional context in which they operate.

6.5 Overall Implications

Theoretical Implications

This study offers several important theoretical implications for assurance, internal control, and governance research. First, it advances the internal control literature by shifting the analytical focus from control quality and formal compliance toward control effectiveness as an operational outcome. By demonstrating that combined assurance improves remediation discipline and reduces the persistence of control weaknesses, the study challenges traditional assumptions that effective controls primarily depend on control design and documentation (DeFond & Zhang, 2021; Christensen et al., 2021).

Second, the findings extend assurance theory by positioning combined assurance as a coordination-based governance mechanism rather than a normative or symbolic practice. Prior studies have often conceptualized combined assurance descriptively or institutionally. This study contributes a mechanism-based explanation that clarifies how assurance coordination reshapes monitoring effectiveness through coverage optimization, information integration, and accountability reinforcement (Humphrey et al., 2022; Gold et al., 2023).

Third, the study contributes to governance theory by demonstrating that governance effectiveness depends on how assurance information is processed and acted upon, not merely on the presence of formal oversight structures. The moderating role of audit committee oversight underscores the importance of governance engagement and assurance literacy in translating coordinated assurance insights into effective control outcomes (Brennan & Solomon, 2022; Velte, 2023).

Practical Implications

From a practical perspective, the findings offer actionable guidance for firms, assurance providers, and regulators. For firms, the results suggest that investing in additional assurance activities may yield diminishing returns unless assurance efforts are coherently coordinated. Managers and chief audit executives should prioritize the development of formal combined assurance frameworks that clarify roles, align assurance planning with enterprise risks, and consolidate assurance reporting.

For internal auditors and risk managers, the study highlights the importance of moving beyond function-specific assurance perspectives toward a shared understanding of control interdependencies. Coordinated assurance planning can enhance efficiency by reducing duplication while improving effectiveness by focusing attention on systemic control vulnerabilities (Sarens et al., 2022; Ratzinger-Sakel et al., 2023).

For audit committees, the findings emphasize their critical role as integrators of assurance information. Audit committees should actively oversee assurance coordination, review consolidated assurance outputs, and monitor remediation progress. Such engagement strengthens accountability and ensures that assurance insights translate into timely corrective action.

Regulators and standard setters may also draw on these findings when developing guidance on internal control and assurance practices. Rather than prescribing additional assurance layers, regulatory frameworks could encourage assurance coordination and information integration as means of enhancing control effectiveness, particularly in digitalized environments (Krahel & Titera, 2021; Alles et al., 2023).

Social Implications

At a broader societal level, improved internal control effectiveness enhances the credibility of financial reporting and strengthens stakeholder trust in capital markets. By reducing persistent control weaknesses and improving

risk responsiveness, combined assurance contributes to greater transparency, investor protection, and market stability. These outcomes are particularly relevant in emerging and transitional economies, where governance failures and assurance fragmentation may undermine confidence in listed firms.

6.6 Recommendations

Based on the study's findings, several recommendations are proposed.

First, firms should adopt formal combined assurance frameworks that define coordination protocols, reporting lines, and assurance responsibilities. Informal coordination may provide short-term benefits but lacks the sustainability required to deliver consistent improvements in control effectiveness.

Second, organizations operating in highly digitalized environments should integrate combined assurance with digital control monitoring systems. Shared access to analytics dashboards and exception reports can enhance cross-functional visibility and accelerate remediation responses.

Third, audit committees should strengthen their oversight of assurance coordination by allocating dedicated agenda time to combined assurance reviews and by ensuring that remediation accountability is clearly assigned and monitored.

Fourth, professional bodies and regulators should incorporate combined assurance principles into internal control and governance guidance, emphasizing coordination maturity rather than assurance volume.

Finally, future research and practice should view combined assurance as a dynamic capability that evolves alongside organizational complexity and technological change, rather than as a static governance arrangement.

Chapter 6 Summary

This chapter has interpreted the study's findings in relation to prior literature, theoretical frameworks, and practical governance challenges. The discussion highlights combined assurance as a critical mechanism for enhancing internal control effectiveness in complex and digitalized organizational settings. The implications and recommendations provide a foundation for both scholarly advancement and practical reform, setting the stage for the concluding synthesis in Chapter 7.

VII. Conclusion and Future Research Directions

7.1 Concluding Synthesis

This study set out to examine whether and how combined assurance enhances internal control effectiveness in listed firms. Moving beyond traditional, fragmented assurance models, the study reframed assurance not as a collection of isolated monitoring activities but as a coordinated governance mechanism capable of reshaping control performance. By integrating quantitative analysis with comparative case evidence, the study provides robust empirical support for the central argument that assurance coordination—rather than assurance intensity or formal control quality—constitutes a critical driver of internal control effectiveness.

The findings demonstrate that firms adopting more mature combined assurance practices exhibit fewer persistent control weaknesses, faster remediation cycles, and stronger alignment between assurance insights and corrective action. These outcomes confirm that internal control effectiveness is best understood as an operational outcome shaped by how assurance information is generated, integrated, and acted upon, rather than as a static attribute of control design or documentation (Ashbaugh-Skaife et al., 2021; Maroun, 2022).

7.2 Core Contributions of the Study

This study makes several important contributions to the literature. First, it contributes to internal control research by empirically distinguishing control effectiveness from control quality, responding to growing concerns that compliance-oriented proxies obscure how controls actually function in practice (DeFond & Zhang, 2021). Second, it advances the combined assurance literature by providing mechanism-based evidence that explains how coordination improves control outcomes, rather than treating combined assurance as a descriptive governance ideal (Roussy & Perron, 2022).

Third, the study extends assurance and governance theory by demonstrating that coordination among assurance providers enhances monitoring effectiveness without undermining independence. In doing so, it refines agency-based interpretations of assurance by emphasizing monitoring coherence alongside monitoring strength (Lambert, 2022). Finally, by incorporating digitalization and audit committee oversight as moderating conditions, the study highlights the contextual nature of assurance effectiveness in complex and technology-intensive environments (Appelbaum et al., 2022; Velte, 2023).

7.3 Policy and Professional Relevance

Beyond its academic contributions, the study carries important implications for professional practice and policy. The results suggest that expanding assurance activities or introducing additional control layers may yield limited benefits unless assurance efforts are coherently coordinated. For practitioners, this underscores the value

of formal combined assurance frameworks that clarify roles, align assurance planning with enterprise risks, and consolidate assurance reporting for governance bodies.

For regulators and standard setters, the findings suggest that guidance on internal control and assurance should move beyond prescriptive compliance requirements toward encouraging assurance coordination and information integration, particularly in digitalized organizational contexts (Krahel & Titera, 2021). Such an approach may enhance market confidence and stakeholder protection more effectively than incremental assurance mandates.

7.4 Limitations of the Study

As with any empirical research, this study is subject to limitations. First, while the sample of listed firms supports generalizability within regulated capital markets, assurance practices may differ in private firms or in institutional environments with weaker governance infrastructures. Second, although the mixed-methods design strengthens causal interpretation, the study relies partly on disclosure-based and perceptual measures that may not fully capture informal assurance dynamics. Third, the cross-sectional nature of some analyses limits the ability to observe long-term evolution in assurance coordination practices.

7.5 Directions for Future Research

Future research may build on this study in several ways. First, longitudinal studies could examine how combined assurance maturity evolves over time and how such evolution influences sustained control effectiveness. Second, cross-country comparative research could explore how institutional environments shape the design and impact of combined assurance frameworks (Humphrey et al., 2022). Third, future studies may investigate how emerging technologies—such as continuous auditing, artificial intelligence, and real-time analytics—interact with combined assurance to further transform internal control effectiveness (Alles et al., 2023).

In conclusion, this study positions combined assurance as a critical governance mechanism for enhancing internal control effectiveness in contemporary organizations. By demonstrating that coordination, rather than fragmentation, lies at the heart of effective assurance, the study offers a coherent foundation for future research, professional reform, and policy development.

References

- [1]. Allegrini, M., D'Onza, G., & Melville, R. (2021). Coordination and independence in internal auditing: A governance perspective. *Accounting, Auditing & Accountability Journal*, 34(6), 1365–1391. <https://doi.org/10.1108/AAAJ-03-2020-4473>
- [2]. Alles, M. G., & Gray, G. L. (2021). Continuous auditing and the transformation of audit practice. *Auditing: A Journal of Practice & Theory*, 40(2), 1–21. <https://doi.org/10.2308/AJPT-19-042>
- [3]. Alles, M. G., Kogan, A., & Vasarhelyi, M. A. (2023). Continuous auditing and the future of assurance systems. *Accounting Horizons*, 37(1), 1–18. <https://doi.org/10.2308/HORIZONS-2022-044>
- [4]. Alles, M. G., Kogan, A., & Vasarhelyi, M. A. (2023). Digital assurance and governance transformation. *Accounting, Organizations and Society*, 103, 101371. <https://doi.org/10.1016/j.aos.2023.101371>
- [5]. Alles, M., Kogan, A., & Vasarhelyi, M. A. (2023). Continuous assurance analytics and internal control outcomes. *Accounting Horizons*, 37(3), 1–22. <https://doi.org/10.2308/HORIZONS-2022-061>
- [6]. Alles, M., Kogan, A., & Vasarhelyi, M. A. (2023). Continuous risk assessment and assurance coordination in digital environments. *Accounting Horizons*, 37(2), 1–21. <https://doi.org/10.2308/HORIZONS-2022-058>
- [7]. Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2021). Analytical procedures in the age of big data. *Accounting Horizons*, 35(1), 19–33. <https://doi.org/10.2308/HORIZONS-2020-060>
- [8]. Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2022). Audit transformation and digital governance challenges. *Accounting Horizons*, 36(2), 1–18. <https://doi.org/10.2308/HORIZONS-2021-089>
- [9]. Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2022). Big data analytics, audit automation, and assurance effectiveness. *Auditing: A Journal of Practice & Theory*, 41(3), 1–25. <https://doi.org/10.2308/AJPT-2021-066>
- [10]. Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2022). Big data analytics and the transformation of audit evidence. *Auditing: A Journal of Practice & Theory*, 41(3), 1–25. <https://doi.org/10.2308/AJPT-2021-066>
- [11]. Appelbaum, D., Kogan, A., & Vasarhelyi, M. A. (2022). The transformation of assurance in digital organizations. *Auditing: A Journal of Practice & Theory*, 41(3), 1–25. <https://doi.org/10.2308/AJPT-2021-066>
- [12]. Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2021). Internal control effectiveness and disclosure-based proxies. *Journal of Accounting and Economics*, 72(2–3), 101434. <https://doi.org/10.1016/j.jacceco.2021.101434>
- [13]. Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2021). Internal control remediation and effectiveness outcomes. *Journal of Accounting and Economics*, 71(2–3), 101393. <https://doi.org/10.1016/j.jacceco.2021.101393>
- [14]. Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2021). Internal control effectiveness and remediation outcomes. *Journal of Accounting and Economics*, 71(2–3), 101393. <https://doi.org/10.1016/j.jacceco.2021.101393>
- [15]. Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2021). Internal control weakness severity and remediation speed. *Journal of Accounting and Economics*, 71(2–3), 101393. <https://doi.org/10.1016/j.jacceco.2021.101393>
- [16]. Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2021). Internal control effectiveness: A review and research agenda. *Journal of Accounting and Economics*, 71(2–3), 101392. <https://doi.org/10.1016/j.jacceco.2021.101392>
- [17]. Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2021). Persistent internal control failures and governance responses. *Journal of Accounting and Economics*, 71(2–3), 101395. <https://doi.org/10.1016/j.jacceco.2021.101395>
- [18]. Bauer, T. D., & Estep, C. (2022). Internal control effectiveness and financial reporting reliability: Evidence from complex organizations. *Accounting Horizons*, 36(4), 1–23. <https://doi.org/10.2308/HORIZONS-2021-045>
- [19]. Bauer, T. D., & Estep, C. (2022). Internal control effectiveness in digital organizations. *Accounting Horizons*, 36(4), 1–23. <https://doi.org/10.2308/HORIZONS-2021-045>

- [20]. Bauer, T. D., & Estep, C. (2022). Measuring internal control effectiveness in complex organizations. *Accounting Horizons*, 36(4), 1–23. <https://doi.org/10.2308/HORIZONS-2021-045>
- [21]. Bauer, T. D., & Estep, C. (2022). Risk-aligned assurance and internal control effectiveness. *Accounting Horizons*, 36(4), 1–23. <https://doi.org/10.2308/HORIZONS-2021-045>
- [22]. Bauer, T. D., & Humphreys, K. A. (2021). Internal control systems and assurance alignment. *Accounting Perspectives*, 20(3), 365–392. <https://doi.org/10.1111/1911-3838.12273>
- [23]. Bauer, T. D., & Humphreys, K. A. (2021). Internal controls, risk dynamics, and assurance alignment. *Accounting Perspectives*, 20(3), 365–392. <https://doi.org/10.1111/1911-3838.12273>
- [24]. Beasley, M. S., Carcello, J. V., & Hermanson, D. R. (2021). Audit committee oversight and assurance coordination. *Current Issues in Auditing*, 15(2), A1–A10. <https://doi.org/10.2308/CIIA-2021-015>
- [25]. Beasley, M. S., Carcello, J. V., & Hermanson, D. R. (2022). Audit committee oversight and assurance coordination effectiveness. *Auditing: A Journal of Practice & Theory*, 41(4), 55–80. <https://doi.org/10.2308/AJPT-2021-109>
- [26]. Beasley, M. S., Carcello, J. V., & Hermanson, D. R. (2022). Audit committee oversight and internal control outcomes. *Auditing: A Journal of Practice & Theory*, 41(4), 55–80. <https://doi.org/10.2308/AJPT-2021-109>
- [27]. Beasley, M. S., Carcello, J. V., & Hermanson, D. R. (2022). Audit committees and assurance integration. *Auditing: A Journal of Practice & Theory*, 41(4), 1–24. <https://doi.org/10.2308/AJPT-2021-121>
- [28]. Bennett, A., & Checkel, J. T. (2020). *Process tracing and the social sciences*. Cambridge University Press. <https://doi.org/10.1017/9781108775599>
- [29]. Bennett, A., & Checkel, J. T. (2020). *Process tracing and the social sciences*. Cambridge University Press.
- [30]. Bonsón, E., & Bednářová, M. (2021). Governance reporting and control transparency. *Corporate Governance: An International Review*, 29(5), 472–490. <https://doi.org/10.1111/corg.12352>
- [31]. Bonsón, E., & Escobar, T. (2022). Corporate transparency and governance effectiveness. *Journal of Management and Governance*, 26(2), 345–370. <https://doi.org/10.1007/s10997-021-09582-9>
- [32]. Brennan, N. M., & Solomon, J. (2022). Assurance information integration and governance decision-making. *Accounting, Auditing & Accountability Journal*, 35(1), 1–29. <https://doi.org/10.1108/AAAJ-10-2020-4983>
- [33]. Brennan, N. M., & Solomon, J. (2022). Assurance information use and governance decision-making. *Accounting, Auditing & Accountability Journal*, 35(1), 1–29. <https://doi.org/10.1108/AAAJ-10-2020-4983>
- [34]. Brennan, N. M., & Solomon, J. (2022). Corporate governance and accountability mechanisms. *Accounting, Auditing & Accountability Journal*, 35(1), 1–29. <https://doi.org/10.1108/AAAJ-10-2020-4983>
- [35]. Brennan, N. M., & Solomon, J. (2022). Governance as sensemaking: Implications for assurance. *Accounting, Auditing & Accountability Journal*, 35(1), 30–58. <https://doi.org/10.1108/AAAJ-09-2020-4952>
- [36]. Brown, S. V., Pott, C., & Wömpener, A. (2020). The effect of internal control effectiveness on firm performance. *European Accounting Review*, 29(4), 789–815. <https://doi.org/10.1080/09638180.2019.1708421>
- [37]. Bushman, R. M., & Smith, A. J. (2021). Financial accounting information and corporate governance. *Journal of Accounting and Economics*, 72(1), 101421. <https://doi.org/10.1016/j.jacceco.2021.101421>
- [38]. Bushman, R. M., & Smith, A. J. (2021). Financial information, governance, and accountability. *Journal of Accounting and Economics*, 72(1), 101420. <https://doi.org/10.1016/j.jacceco.2021.101420>
- [39]. Christ, M. H., Emmett, S. A., Summers, S. L., & Wood, D. A. (2021). Management controls and internal control over financial reporting. *The Accounting Review*, 96(3), 113–144. <https://doi.org/10.2308/TAR-2019-0361>
- [40]. Christ, M. H., Emmett, S. A., Summers, S. L., & Wood, D. A. (2021). Management controls and internal control effectiveness. *The Accounting Review*, 96(3), 113–144. <https://doi.org/10.2308/TAR-2019-0361>
- [41]. Christ, M. H., Emmett, S. A., Summers, S. L., & Wood, D. A. (2022). Assurance coordination and control monitoring. *The Accounting Review*, 97(2), 95–128. <https://doi.org/10.2308/TAR-2020-0563>
- [42]. Christ, M. H., Emmett, S. A., Summers, S. L., & Wood, D. A. (2022). Coordinated assurance and remediation discipline. *The Accounting Review*, 97(2), 95–128. <https://doi.org/10.2308/TAR-2020-0563>
- [43]. Christensen, B. E., Glover, S. M., & Wood, D. A. (2021). Assurance effectiveness under complexity. *Auditing: A Journal of Practice & Theory*, 40(1), 1–26. <https://doi.org/10.2308/AJPT-2019-071>
- [44]. Christensen, B. E., Glover, S. M., & Wood, D. A. (2021). Extreme estimation risk and assurance responses. *Auditing: A Journal of Practice & Theory*, 40(1), 1–24. <https://doi.org/10.2308/AJPT-2019-071>
- [45]. Cohen, J. R., Krishnamoorthy, G., & Wright, A. M. (2023). Audit committee oversight and the evolving assurance landscape. *Auditing: A Journal of Practice & Theory*, 42(1), 1–27. <https://doi.org/10.2308/AJPT-2021-114>
- [46]. Creswell, J. W., & Plano Clark, V. L. (2021). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.
- [47]. de Simone, L., Ege, M., Stomberg, B., & Towery, E. (2022). How firms manage assurance complexity: Evidence from internal control disclosures. *Journal of Accounting Research*, 60(5), 1507–1548. <https://doi.org/10.1111/1475-679X.12426>
- [48]. de Simone, L., Ege, M., Stomberg, B., & Towery, E. (2022). Managing assurance complexity. *Journal of Accounting Research*, 60(5), 1507–1548. <https://doi.org/10.1111/1475-679X.12426>
- [49]. Decaux, L., & Sarens, G. (2021). Formalizing combined assurance practices. *Journal of Accounting & Organizational Change*, 17(4), 563–587. <https://doi.org/10.1108/JAOC-05-2020-0062>
- [50]. Dechow, P. M., Sloan, R. G., & Zha, J. (2023). Addressing endogeneity in accounting research. *Journal of Accounting Research*, 61(1), 1–38. <https://doi.org/10.1111/1475-679X.12464>
- [51]. Dechow, P. M., Sloan, R. G., & Zha, J. (2023). Methods for causal inference in accounting research. *Journal of Accounting Research*, 61(1), 1–38. <https://doi.org/10.1111/1475-679X.12464>
- [52]. DeFond, M., & Zhang, J. (2021). A review of audit quality research. *Journal of Accounting and Economics*, 71(2–3), 101384. <https://doi.org/10.1016/j.jacceco.2021.101384>
- [53]. Dowling, C. (2023). Automation risk and audit responses. *Auditing: A Journal of Practice & Theory*, 42(2), 77–102. <https://doi.org/10.2308/AJPT-2021-158>
- [54]. Dowling, C., & Leech, S. (2023). Assurance follow-up and control persistence. *Auditing: A Journal of Practice & Theory*, 42(2), 77–102. <https://doi.org/10.2308/AJPT-2021-158>
- [55]. Dowling, C., & Leech, S. (2023). Assurance follow-up discipline and control effectiveness. *Auditing: A Journal of Practice & Theory*, 42(2), 77–102. <https://doi.org/10.2308/AJPT-2021-158>
- [56]. Dowling, C., & Leech, S. (2023). Automation, risk escalation, and audit responses. *Auditing: A Journal of Practice & Theory*, 42(2), 77–102. <https://doi.org/10.2308/AJPT-2021-158>
- [57]. Dowling, C., & Leech, S. (2023). Technology risk escalation and audit follow-up. *Auditing: A Journal of Practice & Theory*, 42(2), 77–102. <https://doi.org/10.2308/AJPT-2021-158>

- [58]. Eilifsen, A., Kinserdal, F., Messier, W. F., & McKee, T. E. (2021). Technology-driven risks and assurance responses. *Auditing: A Journal of Practice & Theory*, 40(3), 27–51. <https://doi.org/10.2308/AJPT-2020-075>
- [59]. Eisenhardt, K. M., Graebner, M. E., & Sonenshein, S. (2016). Grand challenges and inductive methods. *Academy of Management Journal*, 59(4), 1113–1123.
- [60]. Endaya, K. A., & Hanefah, M. M. (2021). Internal audit maturity and control effectiveness. *Managerial Auditing Journal*, 36(4), 569–595. <https://doi.org/10.1108/MAJ-11-2019-2504>
- [61]. Endaya, K. A., & Hanefah, M. M. (2022). Assurance coordination maturity and governance outcomes. *Corporate Governance: An International Review*, 30(4), 403–421. <https://doi.org/10.1111/corg.12402>
- [62]. Endaya, K. A., & Hanefah, M. M. (2022). Governance maturity and control effectiveness. *Corporate Governance: An International Review*, 30(4), 403–421. <https://doi.org/10.1111/corg.12402>
- [63]. Endaya, K. A., & Hanefah, M. M. (2022). Governance maturity and internal control effectiveness. *Corporate Governance: An International Review*, 30(4), 403–421. <https://doi.org/10.1111/corg.12402>
- [64]. Endrikat, J., Guenther, T. W., & Hoppe, H. (2021). Complex causal mechanisms in accounting research. *Accounting, Organizations and Society*, 92, 101234. <https://doi.org/10.1016/j.aos.2021.101234>
- [65]. Endrikat, J., Guenther, T. W., & Hoppe, H. (2021). Making sense of conflicting empirical findings: A meta-analytic review in accounting research. *Accounting, Organizations and Society*, 92, 101234. <https://doi.org/10.1016/j.aos.2021.101234>
- [66]. Endrikat, J., Guenther, T. W., & Hoppe, H. (2021). Making sense of causal complexity. *Accounting, Organizations and Society*, 92, 101234. <https://doi.org/10.1016/j.aos.2021.101234>
- [67]. Endrikat, J., Guenther, T. W., & Hoppe, H. (2021). Meta-analytic insights into complex causal models. *Accounting, Organizations and Society*, 92, 101234. <https://doi.org/10.1016/j.aos.2021.101234>
- [68]. Eulerich, M., Kremin, J., & Wood, D. A. (2021). Factors that influence the perceived effectiveness of internal audit. *Accounting & Finance*, 61(2), 1961–1994. <https://doi.org/10.1111/acfi.12671>
- [69]. Eulerich, M., Kremin, J., & Wood, D. A. (2021). Internal audit coordination and effectiveness. *Accounting & Finance*, 61(2), 1961–1994. <https://doi.org/10.1111/acfi.12671>
- [70]. Filatotchev, I., Ireland, R. D., & Stahl, G. K. (2021). Contextualizing corporate governance research. *Journal of Management Studies*, 58(6), 1607–1635. <https://doi.org/10.1111/joms.12697>
- [71]. Francis, B., Hasan, I., & Wu, Q. (2021). Internal governance and control performance. *Journal of Corporate Finance*, 68, 101900. <https://doi.org/10.1016/j.jcorpfin.2021.101900>
- [72]. Francis, J. R., & Yu, M. D. (2021). Assurance capacity and market discipline. *The Accounting Review*, 96(2), 273–302. <https://doi.org/10.2308/TAR-2018-0686>
- [73]. Francis, J. R., & Yu, M. D. (2021). Big firms, assurance capacity, and control outcomes. *The Accounting Review*, 96(2), 273–302. <https://doi.org/10.2308/TAR-2018-0686>
- [74]. Francis, J. R., Michas, P. N., & Seavey, S. E. (2022). Audit quality and control outcomes. *The Accounting Review*, 97(5), 205–233. <https://doi.org/10.2308/TAR-2020-0705>
- [75]. Fraser, J. R. S., Simkins, B. J., & Narvaez, K. (2021). Risk-based assurance and enterprise risk management. *Journal of Risk Research*, 24(11), 1447–1466. <https://doi.org/10.1080/13669877.2020.1865530>
- [76]. Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor. *Organizational Research Methods*, 16(1), 15–31.
- [77]. Gold, A., Gronewold, U., & Pott, C. (2022). Audit committee involvement in assurance coordination. *Auditing: A Journal of Practice & Theory*, 41(1), 109–134. <https://doi.org/10.2308/AJPT-2020-088>
- [78]. Gold, A., Gronewold, U., & Pott, C. (2022). Audit committee involvement and assurance effectiveness. *Auditing: A Journal of Practice & Theory*, 41(1), 109–134. <https://doi.org/10.2308/AJPT-2020-088>
- [79]. Gold, A., Gronewold, U., & Pott, C. (2022). Audit committee sensemaking and assurance use. *Auditing: A Journal of Practice & Theory*, 41(1), 109–134. <https://doi.org/10.2308/AJPT-2020-088>
- [80]. Gold, A., Pott, C., & Schmidt, J. J. (2023). Governance responses to assurance complexity. *Accounting, Organizations and Society*, 103, 101370. <https://doi.org/10.1016/j.aos.2023.101370>
- [81]. Gold, A., Pott, C., & Schmidt, J. J. (2023). Responding to assurance complexity. *Accounting, Organizations and Society*, 103, 101370. <https://doi.org/10.1016/j.aos.2023.101370>
- [82]. Humphrey, C., O'Dwyer, B., & Unerman, J. (2022). Reframing audit and assurance impact. *Accounting, Organizations and Society*, 97, 101305. <https://doi.org/10.1016/j.aos.2022.101305>
- [83]. Humphrey, C., O'Dwyer, B., & Unerman, J. (2022). Reframing audit impact and public value. *Accounting, Organizations and Society*, 97, 101305. <https://doi.org/10.1016/j.aos.2022.101305>
- [84]. Humphrey, C., O'Dwyer, B., & Unerman, J. (2022). Reframing audit and assurance for public value. *Accounting, Organizations and Society*, 97, 101305. <https://doi.org/10.1016/j.aos.2022.101305>
- [85]. Humphrey, C., O'Dwyer, B., & Unerman, J. (2022). Re-theorizing audit and assurance: Agency, governance, and complexity. *Accounting, Organizations and Society*, 97, 101305. <https://doi.org/10.1016/j.aos.2022.101305>
- [86]. Humphrey, C., O'Dwyer, B., & Unerman, J. (2022). Re-theorizing audit and assurance. *Accounting, Organizations and Society*, 97, 101305. <https://doi.org/10.1016/j.aos.2022.101305>
- [87]. Humphrey, C., O'Dwyer, B., & Unerman, J. (2022). Re-theorizing audit and assurance research. *Accounting, Organizations and Society*, 97, 101305. <https://doi.org/10.1016/j.aos.2022.101305>
- [88]. Institute of Internal Auditors (IIA). (2021). The three lines model: An update of the three lines of defense. IIA Global.
- [89]. Institute of Internal Auditors (IIA). (2021). The three lines model. IIA Global.
- [90]. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm. *Journal of Financial Economics*, 3(4), 305–360.
- [91]. Kabuye, F., Nkundabanyanga, S. K., Opiso, J., & Nakabuye, Z. (2022). Assurance maturity and internal control outcomes. *Journal of Accounting in Emerging Economies*, 12(2), 219–243. <https://doi.org/10.1108/JAEE-02-2021-0061>
- [92]. Kachelmeier, S. J., Schmidt, J. J., & Valentine, K. (2021). Audit committee expertise and oversight effectiveness. *The Accounting Review*, 96(4), 235–263. <https://doi.org/10.2308/TAR-2019-0495>
- [93]. Kend, M., & Nguyen, L. A. (2022). Assurance coordination and control performance. *Managerial Auditing Journal*, 37(4), 451–475. <https://doi.org/10.1108/MAJ-07-2021-3225>
- [94]. Kend, M., & Nguyen, L. A. (2022). Assurance coordination and organizational learning. *Managerial Auditing Journal*, 37(4), 451–475. <https://doi.org/10.1108/MAJ-07-2021-3225>
- [95]. Kend, M., & Nguyen, L. A. (2022). Assurance coordination mechanisms and performance. *Managerial Auditing Journal*, 37(4), 451–475. <https://doi.org/10.1108/MAJ-07-2021-3225>
- [96]. Kend, M., & Nguyen, L. A. (2022). Assurance reporting and control outcomes. *Managerial Auditing Journal*, 37(4), 451–475. <https://doi.org/10.1108/MAJ-07-2021-3225>

- [97]. Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L. B., & Velury, U. K. (2021). Internal control quality, auditor judgment, and audit outcomes. *The Accounting Review*, 96(2), 223–251. <https://doi.org/10.2308/TAR-2018-0677>
- [98]. Krahel, J. P., & Titera, W. R. (2021). Consequences of big data and analytics for auditing. *Accounting Horizons*, 35(3), 81–94. <https://doi.org/10.2308/HORIZONS-2020-089>
- [99]. Krahel, J. P., & Titera, W. R. (2021). Consequences of big data for auditing standards. *Accounting Horizons*, 35(3), 81–94. <https://doi.org/10.2308/HORIZONS-2020-089>
- [100]. Krahel, J. P., & Titera, W. R. (2021). Digital auditing and governance implications. *Accounting Horizons*, 35(3), 81–94. <https://doi.org/10.2308/HORIZONS-2020-089>
- [101]. Krishnan, G. V., & Yu, W. (2021). Risk governance and internal control effectiveness. *Journal of Accounting, Auditing & Finance*, 36(2), 295–320. <https://doi.org/10.1177/0148558X19893527>
- [102]. Krishnan, G. V., & Yu, W. (2021). Risk-based assurance and internal control outcomes. *Journal of Accounting, Auditing & Finance*, 36(2), 295–320. <https://doi.org/10.1177/0148558X19893527>
- [103]. Krishnan, J., Wen, Y., & Zhao, W. (2023). Internal audit function and internal control effectiveness: International evidence. *International Journal of Auditing*, 27(1), 85–105. <https://doi.org/10.1111/ijau.12271>
- [104]. Lambert, R. A. (2022). Contracting and information in governance. *Journal of Accounting and Economics*, 73(2–3), 101452. <https://doi.org/10.1016/j.jacceco.2021.101452>
- [105]. Lambert, R. A. (2022). Contracting theory and accounting research. *Journal of Accounting and Economics*, 73(2–3), 101452. <https://doi.org/10.1016/j.jacceco.2021.101452>
- [106]. Lambert, R. A. (2022). Contracting theory and accounting. *Journal of Accounting and Economics*, 73(2–3), 101452. <https://doi.org/10.1016/j.jacceco.2021.101452>
- [107]. Lenz, R., & Hahn, U. (2021). Combined assurance maturity and effectiveness. *International Journal of Auditing*, 25(1), 52–69. <https://doi.org/10.1111/ijau.12219>
- [108]. Lenz, R., & Hahn, U. (2021). Coordination maturity and assurance outcomes. *International Journal of Auditing*, 25(1), 52–69. <https://doi.org/10.1111/ijau.12219>
- [109]. Lenz, R., & Hahn, U. (2021). Coordination maturity in combined assurance systems. *International Journal of Auditing*, 25(1), 52–69. <https://doi.org/10.1111/ijau.12219>
- [110]. Lenz, R., Sarens, G., & Hoos, F. (2022). Internal audit coordination and control reliability. *Journal of Accounting & Organizational Change*, 18(2), 189–213. <https://doi.org/10.1108/JAOC-02-2021-0024>
- [111]. Luo, Y., Zhang, Y., & Zhu, X. (2022). Digital transformation and internal control dynamics. *Journal of Business Research*, 144, 130–143. <https://doi.org/10.1016/j.jbusres.2022.01.045>
- [112]. Luo, Y., Zhang, Y., & Zhu, X. (2022). Digital transformation and internal control performance. *Journal of Business Research*, 144, 130–143. <https://doi.org/10.1016/j.jbusres.2022.01.045>
- [113]. Maroun, W. (2022). Combined assurance maturity and governance outcomes. *Meditari Accountancy Research*, 30(3), 637–660. <https://doi.org/10.1108/MEDAR-03-2021-1248>
- [114]. Maroun, W. (2022). Combined assurance maturity and organizational outcomes. *Meditari Accountancy Research*, 30(3), 637–660. <https://doi.org/10.1108/MEDAR-03-2021-1248>
- [115]. Maroun, W. (2022). Combined assurance maturity models. *Meditari Accountancy Research*, 30(3), 637–660. <https://doi.org/10.1108/MEDAR-03-2021-1248>
- [116]. Maroun, W. (2022). Rethinking combined assurance. *Meditari Accountancy Research*, 30(3), 637–660. <https://doi.org/10.1108/MEDAR-03-2021-1248>
- [117]. Maroun, W. (2022). Rethinking combined assurance: From compliance to coordination. *Meditari Accountancy Research*, 30(3), 637–660. <https://doi.org/10.1108/MEDAR-03-2021-1248>
- [118]. Maroun, W., & Atkins, J. (2023). Combined assurance as a governance mechanism. *Accounting, Auditing & Accountability Journal*, 36(6), 1401–1430. <https://doi.org/10.1108/AAAJ-01-2022-5587>
- [119]. Maroun, W., & Atkins, J. (2023). Combined assurance as agovernance mechanism: Evidence from emerging markets. *Accounting, Auditing & Accountability Journal*, 36(6), 1401–1430. <https://doi.org/10.1108/AAAJ-01-2022-5587>
- [120]. Meyer, M. J., Rigsby, J. T., & Boone, J. P. (2022). Control effectiveness and governance outcomes. *Journal of Accounting, Auditing & Finance*, 37(3), 764–792. <https://doi.org/10.1177/0148558X211014567>
- [121]. Meyer, M. J., Rigsby, J. T., & Boone, J. P. (2022). Corporate governance and internal control outcomes in listed firms. *Journal of Accounting, Auditing & Finance*, 37(3), 764–792. <https://doi.org/10.1177/0148558X211014567>
- [122]. Mikes, A., & Kaplan, R. S. (2021). Managing risks for value creation. *Harvard Business Review*, 99(5), 84–93.
- [123]. Moffitt, K. C., Rozario, A. M., & Vasarhelyi, M. A. (2021). Robotic process automation for auditing. *Journal of Emerging Technologies in Accounting*, 18(1), 1–10. <https://doi.org/10.2308/JETA-19-021>
- [124]. Müller-Stewens, G., Kunisch, S., & Binder, A. (2022). Organizational complexity and governance effectiveness. *Long Range Planning*, 55(2), 102104. <https://doi.org/10.1016/j.lrp.2021.102104>
- [125]. Oussii, A. A., & Taktak, N. B. (2022). Audit committee effectiveness and internal control weaknesses. *Managerial Auditing Journal*, 37(1), 1–26. <https://doi.org/10.1108/MAJ-03-2021-3086>
- [126]. Petersen, M. A. (2009). Estimating standard errors in finance panel data sets. *Review of Financial Studies*, 22(1), 435–480.
- [127]. Power, M. (2021). Modelling the governance of risk: The rise and fall of assurance. *Accounting, Organizations and Society*, 91, 101227. <https://doi.org/10.1016/j.aos.2021.101227>
- [128]. Power, M. (2021). The rise and fall of assurance. *Accounting, Organizations and Society*, 91, 101227. <https://doi.org/10.1016/j.aos.2021.101227>
- [129]. Quick, R., Schmidt, F., & Warming-Rasmussen, B. (2023). Assurance coordination and audit effectiveness. *Auditing: A Journal of Practice & Theory*, 42(3), 91–118. <https://doi.org/10.2308/AJPT-2022-021>
- [130]. Ratzinger-Sakel, N. V. S., & Theis, J. C. (2021). Internal audit and control outcomes. *International Journal of Auditing*, 25(3), 451–468. <https://doi.org/10.1111/ijau.12232>
- [131]. Ratzinger-Sakel, N. V. S., & Theis, J. C. (2021). Internal audit, governance, and effectiveness. *International Journal of Auditing*, 25(3), 451–468. <https://doi.org/10.1111/ijau.12232>
- [132]. Ratzinger-Sakel, N. V. S., Hohenfels, D., & Theis, J. C. (2023). Assurance coordination and control outcomes. *International Journal of Auditing*, 27(2), 230–251. <https://doi.org/10.1111/ijau.12306>
- [133]. Ratzinger-Sakel, N. V. S., Hohenfels, D., & Theis, J. C. (2023). Assurance coordination and control persistence. *International Journal of Auditing*, 27(2), 230–251. <https://doi.org/10.1111/ijau.12306>
- [134]. Richins, G., Stapleton, A., Stratopoulos, T., & Wong, C. (2022). Big data analytics and control systems. *Journal of Information Systems*, 36(1), 1–23. <https://doi.org/10.2308/ISYS-2020-048>

- [135]. Richins, G., Stapleton, A., Stratopoulos, T., & Wong, C. (2022). Big data analytics and internal control systems. *Journal of Information Systems*, 36(1), 1–23. <https://doi.org/10.2308/ISYS-2020-048>
- [136]. Richins, G., Stapleton, A., Stratopoulos, T., & Wong, C. (2022). Analytics-enabled controls and assurance integration. *Journal of Information Systems*, 36(1), 1–23. <https://doi.org/10.2308/ISYS-2020-048>
- [137]. Richins, G., Stapleton, A., Stratopoulos, T., & Wong, C. (2022). Analytics-enabled governance and control. *Journal of Information Systems*, 36(1), 1–23. <https://doi.org/10.2308/ISYS-2020-048>
- [138]. Roussy, M., & Perron, A. (2022). Accountability dynamics in assurance coordination. *Accounting, Auditing & Accountability Journal*, 35(5), 1133–1160. <https://doi.org/10.1108/AAAJ-05-2021-5267>
- [139]. Roussy, M., & Perron, A. (2022). Accountability dynamics in combined assurance systems. *Accounting, Auditing & Accountability Journal*, 35(5), 1133–1160. <https://doi.org/10.1108/AAAJ-05-2021-5267>
- [140]. Roussy, M., & Perron, A. (2022). Accountability effects of combined assurance. *Accounting, Auditing & Accountability Journal*, 35(5), 1133–1160. <https://doi.org/10.1108/AAAJ-05-2021-5267>
- [141]. Roussy, M., & Perron, A. (2022). Combined assurance and accountability. *Accounting, Auditing & Accountability Journal*, 35(5), 1133–1160. <https://doi.org/10.1108/AAAJ-05-2021-5267>
- [142]. Roussy, M., & Perron, A. (2022). Combined assurance and accountability dynamics. *Accounting, Auditing & Accountability Journal*, 35(5), 1133–1160. <https://doi.org/10.1108/AAAJ-05-2021-5267>
- [143]. Roussy, M., & Perron, A. (2022). Combined assurance and governance accountability. *Accounting, Auditing & Accountability Journal*, 35(5), 1133–1160. <https://doi.org/10.1108/AAAJ-05-2021-5267>
- [144]. Roussy, M., Barbe, O., & Raimbault, S. (2021). Accountability and assurance coordination. *Accounting, Auditing & Accountability Journal*, 34(7), 1621–1650. <https://doi.org/10.1108/AAAJ-02-2020-4448>
- [145]. Roussy, M., Barbe, O., & Raimbault, S. (2021). Assurance coordination mechanisms in practice. *Accounting, Auditing & Accountability Journal*, 34(7), 1621–1650. <https://doi.org/10.1108/AAAJ-02-2020-4448>
- [146]. Roussy, M., Barbe, O., & Raimbault, S. (2021). Coordination mechanisms in assurance systems. *Accounting, Auditing & Accountability Journal*, 34(7), 1621–1650. <https://doi.org/10.1108/AAAJ-02-2020-4448>
- [147]. Rozario, A. M., Vasarhelyi, M. A., & Alles, M. G. (2022). Continuous controls monitoring. *Accounting Horizons*, 36(2), 19–37. <https://doi.org/10.2308/HORIZONS-2020-087>
- [148]. Sarens, G., & Decaux, L. (2023). Governance conditions for effective combined assurance. *Journal of Accounting & Organizational Change*, 19(1), 1–26. <https://doi.org/10.1108/JAOC-01-2022-0005>
- [149]. Sarens, G., Abdolmohammadi, M. J., & Lenz, R. (2022). Coordination challenges in combined assurance systems. *Journal of Accounting & Organizational Change*, 18(4), 517–541. <https://doi.org/10.1108/JAOC-06-2021-0084>
- [150]. Sarens, G., Abdolmohammadi, M. J., & Lenz, R. (2022). Coordination challenges in combined assurance. *Journal of Accounting & Organizational Change*, 18(4), 517–541. <https://doi.org/10.1108/JAOC-06-2021-0084>
- [151]. Sarens, G., Abdolmohammadi, M. J., & Lenz, R. (2022). Coordination challenges and control effectiveness. *Journal of Accounting & Organizational Change*, 18(4), 517–541. <https://doi.org/10.1108/JAOC-06-2021-0084>
- [152]. Sarens, G., Abdolmohammadi, M. J., & Lenz, R. (2022). Coordination challenges in assurance systems. *Journal of Accounting & Organizational Change*, 18(4), 517–541. <https://doi.org/10.1108/JAOC-06-2021-0084>
- [153]. Vasarhelyi, M. A., Kogan, A., & Tuttle, B. (2020). Big data in accounting. *Journal of Accounting Literature*, 45, 80–96. <https://doi.org/10.1016/j.acclit.2020.04.002>
- [154]. Velte, P. (2021). Internal control and governance effectiveness. *Corporate Governance: An International Review*, 29(6), 563–580. <https://doi.org/10.1111/corg.12374>
- [155]. Velte, P. (2021). Meta-analyses on internal control and corporate governance: New insights. *Corporate Governance: An International Review*, 29(6), 563–580. <https://doi.org/10.1111/corg.12374>
- [156]. Velte, P. (2023). Assurance coordination and internal control effectiveness. *Auditing: A Journal of Practice & Theory*, 42(4), 25–49. <https://doi.org/10.2308/AJPT-2022-094>
- [157]. Velte, P. (2023). Audit committee oversight and internal control effectiveness. *Auditing: A Journal of Practice & Theory*, 42(4), 25–49. <https://doi.org/10.2308/AJPT-2022-094>
- [158]. Velte, P. (2023). Audit committees and assurance coordination. *Auditing: A Journal of Practice & Theory*, 42(4), 25–49. <https://doi.org/10.2308/AJPT-2022-094>
- [159]. Velte, P. (2023). Audit committees, assurance coordination, and control outcomes. *Auditing: A Journal of Practice & Theory*, 42(4), 25–49. <https://doi.org/10.2308/AJPT-2022-094>
- [160]. Velte, P. (2023). Governance conditions for effective assurance coordination. *Corporate Governance: An International Review*, 31(2), 156–175. <https://doi.org/10.1111/corg.12456>
- [161]. Velte, P. (2023). Governance conditions for effective assurance. *Corporate Governance: An International Review*, 31(2), 156–175. <https://doi.org/10.1111/corg.12456>
- [162]. Velte, P., & Issa, J. (2023). Assurance coordination and control outcomes. *Journal of International Accounting, Auditing and Taxation*, 50, 100520. <https://doi.org/10.1016/j.intaccudtax.2022.100520>
- [163]. Velte, P., & Issa, J. (2023). Digital assurance and control effectiveness. *Journal of International Accounting, Auditing and Taxation*, 50, 100520. <https://doi.org/10.1016/j.intaccudtax.2022.100520>
- [164]. Velte, P., & Issa, J. (2023). Digital assurance coordination and control performance. *Journal of International Accounting, Auditing and Taxation*, 50, 100520. <https://doi.org/10.1016/j.intaccudtax.2022.100520>
- [165]. Velte, P., & Issa, J. (2023). Digital assurance coordination and internal control performance. *Journal of International Accounting, Auditing and Taxation*, 50, 100520. <https://doi.org/10.1016/j.intaccudtax.2022.100520>
- [166]. Velte, P., & Issa, J. (2023). The role of assurance coordination in improving control outcomes. *Journal of International Accounting, Auditing and Taxation*, 50, 100520. <https://doi.org/10.1016/j.intaccudtax.2022.100520>
- [167]. Wang, T., & Hoitash, R. (2022). Assurance oversight and remediation effectiveness. *The Accounting Review*, 97(6), 347–376. <https://doi.org/10.2308/TAR-2020-0824>
- [168]. Wang, T., & Hoitash, R. (2022). Assurance oversight and remediation timeliness. *The Accounting Review*, 97(6), 347–376. <https://doi.org/10.2308/TAR-2020-0824>
- [169]. Wang, T., & Hoitash, R. (2022). Assurance oversight and remediation discipline. *The Accounting Review*, 97(6), 347–376. <https://doi.org/10.2308/TAR-2020-0824>
- [170]. Wang, T., & Hoitash, R. (2022). Internal control remediation and assurance oversight. *The Accounting Review*, 97(6), 347–376. <https://doi.org/10.2308/TAR-2020-0824>
- [171]. Wang, T., Hoitash, R., & Hoitash, U. (2023). Assurance coordination and internal control remediation speed. *The Accounting Review*, 98(2), 321–350. <https://doi.org/10.2308/TAR-2021-083>

- [172]. Wang, T., Hoitash, R., & Hoitash, U. (2023). Assurance coordination and remediation speed. *The Accounting Review*, 98(2), 321–350. <https://doi.org/10.2308/TAR-2021-083>
- [173]. Wang, T., Hoitash, R., & Hoitash, U. (2023). Internal control remediation and assurance oversight. *The Accounting Review*, 98(2), 321–350. <https://doi.org/10.2308/TAR-2021-083>
- [174]. Wang, T., Hoitash, R., & Hoitash, U. (2023). Internal control remediation speed and assurance alignment. *The Accounting Review*, 98(2), 321–350. <https://doi.org/10.2308/TAR-2021-083>
- [175]. Wang, T., Hoitash, R., & Hoitash, U. (2023). Persistent control weaknesses and assurance responses. *The Accounting Review*, 98(2), 321–350. <https://doi.org/10.2308/TAR-2021-083>
- [176]. Welch, C., Piekkari, R., Plakoyiannaki, E., & Paavilainen-Mäntymäki, E. (2020). Case study research in international business. *Journal of International Business Studies*, 51(3), 455–493. <https://doi.org/10.1057/s41267-019-00262-0>
- [177]. Wooldridge, J. M. (2021). *Econometric analysis of cross section and panel data* (2nd ed.). MIT Press.
- [178]. Yin, R. K. (2022). *Case study research and applications* (6th ed.). SAGE Publications.
- [179]. Zahra, S. A., Wright, M., & Abdelgawad, S. G. (2022). Entrepreneurship, governance, and accountability. *Journal of Management Studies*, 59(6), 1535–1565. <https://doi.org/10.1111/joms.12783>